# EDITORIAL

## DOMESTIC ENGINEERING

Whole No. 1504 CHICAGO, OCTOBER 8, 1921 Vol. 97, No. 2

### BIG LITTLE THINGS.

IN the city of Chicago is a plumbing and heating contractor who has built up a business that runs into the hundreds of thousands annually. If you were to ask this man how he had achieved his success, his answer would probably be the same as that he gave a few days ago to the effect that he simply did good work and the business grew. This hardly covers the case, however, for there are a great many other men in the business who have also done a high grade of work who have not progressed as this man has. Some other explanation is needed. Even the fact that he insists on his workmen being courteous to customers and particularly careful about the condition in which they leave the scene of their work is hardly sufficient. The other day a young man who had come to inquire of this contractor how he had succeeded in building up such a substantial business, was given the same answer as had been given to others, which was that he had done good work and that the business just developed naturally. The young man took a walk with this contractor during which a little incident occurred which brought out a factor that had much to do with the man's success. As they were walking past a certain house they saw a woman on the front porch. The contractor went over and tipped his hat. "Good morning, Mrs. Cook," he said. "One of my men was sent out to your house the other day to do a little repairing to your plumbing, and I was just wondering if the work was entirely satisfactory." "Yes, thank you, Mr. ————," answered Mrs. Cook, "he was a very courteous fellow and seemed like a very good workman. Whenever I call on you for a plumber I hope you will send me the same man." "I shall be glad to do that," replied Mr. ————, "but I think you would like any other man I might send you, for they are all of the same type."

The man who had called on Mr. W., the contractor, to learn the secret of his success then asked him if he made a practice of calling on his customers to know if they were satisfied. Mr. W. informed him that it was a habit he started when he first went into business, because he really wanted to know if his men were doing satisfactory work, and stated that although his business had grown so that it was impossible for him to call on all his customers, he did attempt to call on new customers and to get in touch occasionally with the others. This may seem like a very small matter but it has had important results, for it has certainly resulted in fixing in the customer's mind the master plumber's name and the fact that his workmen were efficient and courteous, and that the master himself was really interested in whether or not the work was satisfactory. This policy is based on the idea that holding an old customer is cheaper than getting a new one, and today Mr. W. does the bulk of his business with people who have not had any other plumber in their homes for a number of years. Even many of his large jobs come to him in this way without having to present a bid or compete with others. It is profitable business based on principles that are sound, unimportant though they may seem.

### KEEP IN STEP.

ELSEWHERE in this issue appears the story of a plumbing and heating contractor's rise from apprentice to national director, from very poor to well-to-do. Various factors are mentioned as contributing to his success, and one of the more important ones is the fact that he has always kept in touch with the progress of the trade. He has done this through taking an active part in local association meetings, through attending conventions regularly and entering into the discussions, and through a careful reading of trade periodicals.

In every field of human endeavor there are some who lead and some who follow either willingly or reluctantly, while still others not only refuse to follow but attempt to block every progressive move. They have got into a rut and cannot or will not see the advantages of new ideas. They stand in the way of progress, but fortunately cannot block it altogether, for constructive leaders are usually fighters who go through with a thing once they have started it, and they gradually secure the support of that large class of men who are conservative, but who support a movement after they have finally been convinced of its merit. It is through carefully analyzing the ideas of others, supplementing them with constructive thoughts of their own, and then putting them into practice that men advance their own interests and those of the whole trade.

# FROM APPRENTICE *to* NATIONAL DIRECTOR

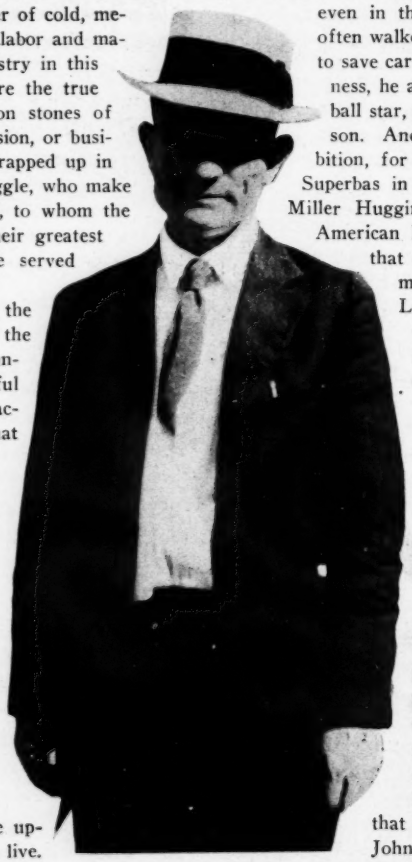
*How John J. Vogelpohl, of Cincinnati, Rose from a Two-Dollar a-Week Apprentice to be the Head of a Prosperous Plumbing and Heating Business and a Director of the National Association Through the Policy of the Square Deal for Everybody*

BACK of every successful business there is a story full of human interest, a story of hard work, self-denial, sacrifices, reverses, disappointment, struggles, and very often something of romance that would read like a novel, if all were known. No sound, substantial business is an accident. It is a tribute to sound policies and conscientious efforts.

To speak of romance in connection with the plumbing and heating business may bring a smile to the faces of some of those who look upon it as simply a matter of cold, mechanical drudgery, or close estimating of labor and material. But those who consider the industry in this light are not the ones as a rule who are the true builders of the industry. The foundation stones of success and progress in any trade, profession, or business are laid by those whose lives are wrapped up in it, who struggle hard, but enjoy the struggle, who make willing sacrifices for the interests of all, to whom the financial end is not all, and who get their greatest pleasure from knowing that they have served well those whom they have served.

The plumbing and heating business in the United States has had much to do with the present state of development of this country. Our great cities, with their healthful conditions, our low death rate, our practical immunity from the epidemics that afflict many countries, our sanitary, well heated, well ventilated, and attractive commercial buildings and homes would be quite impossible were it not for the great progress made by the plumbing and heating industry.

As the plumbing and heating contractors have played their part in the general progress of the country, so they themselves have progressed. They have become keener business men, some have become specialists, some have become successful merchants, and a great many have not only built up a sound prosperous business, but they have also taken a prominent part in civic affairs and the upbuilding of the community in which they live.



John J. Vogelpohl.

Where such progress has been made, there must necessarily have been leaders. And leaders there have been, leaders who have had high ideals, sound policies, and leaders who have fought for their ideals, and have given unselfishly of their time, effort, and money for the advancement of the trade. In this class must be listed John J. Vogelpohl, of Cincinnati. Though Mr. Vogelpohl does not care to appear in the role of a hero, we will just set down some facts about him which are not only interesting, but may also prove something of an inspiration to others, for there are a great many men within the trade who, like Mr. Vogelpohl, are continually seeking to do something for the betterment of the trade as a whole.

In 1896 John J. Vogelpohl started to work for $2 a week as an apprentice with the plumbing firm of Niemes & McGrath in Cincinnati, whose shop was almost six miles from the Vogelpohl home. Two dollars was not a great deal of money even in those days, and, therefore, Mr. Vogelpohl often walked the six miles to and from work in order to save carfare. Though he liked the plumbing business, he also had visions of becoming a great baseball star, possibly a "Babe" Ruth or a Walter Johnson. And there was some reason for such an ambition, for he played regularly with the Cincinnati Superbas in 1900, which team at that time included Miller Huggins, present manager of the New York American League team, this year's flag winners in that organization; Charles Dooin, at one time manager of the Philadelphia National League team; George Rohe, star of the world's series in 1907; Nick Altrock, star in the same series and for years since the comedian whom the Washington American League team has carried as a drawing card; Lee Tannehill, Jimmy Honeyman, and many others who have won fame in the great American sport.

But at this point a new character enters the play. The character is a most important one, a young woman who was opposed to professional baseball, but much in favor of Mr. Vogelpohl. She asked the young plumber-baseball player to choose between herself and baseball. Though Mr. Vogelpohl liked baseball, and in fact had borrowed money with the understanding that he would pay it back when the baseball season opened again, he made a wise choice and one that he never ceased to be proud of, for since that time that young woman has been Mrs. John J. Vogelpohl. And here the real struggle begins. The struggle of two people who had nothing but loving hearts and willing hands, a willingness to work, and work hard, to make sacrifices for each other. This, together with high purposes and good common sense, was the sum total of capital with which Mr. Vogelpohl started in the plumbing business. He rented two rooms over a store for $6 per month and bought furniture to the amount of $118, though he had to borrow $10 to make the first payment on it.

A false impression exists in the minds of a great many people regarding prosperity. To many it means an orgy of spending, it means high prices, high wages, big profits, a period of reckless extravagance such as existed during the latter part of the great war and the two years immediately following. This however, is not real prosperity, in fact it is the opposite. During such a period a country does not prosper, but on the contrary declines, for more is consumed than is created. It is a period of deterioration, of tearing down the standards and practices that have been responsible for the growth, development and storing up of surplus energy in the form of goods.

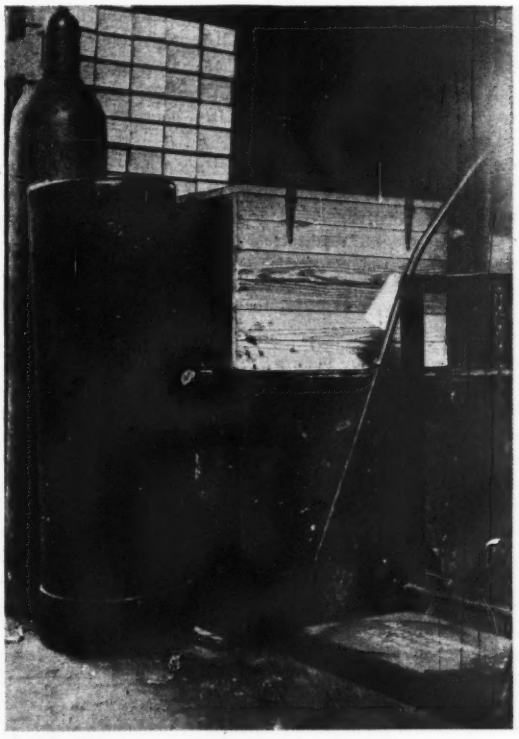
When labor is loyal and giving a full day of consicentious effort, when manufacturers through the application of keen minds are developing organizations, machines, and methods for making a high grade article at a moderate price and are willing to take a modest profit, when dealers strive to offer customers the greatest possible value for their money; and, in general, when manufacturers, dealers, professional men, labor, and everybody else put forth their maximum efforts, and all at the same time follow the policy of honesty and the square deal, then does a country prosper. But when manufacturers, bankers, professional men, labor, dealers, and others fall into the practice of giving the least both in quality and quantity for the greatest price that they can exact, and receive from the average person not condemnation, but a smile of approval for being able "to get away with it," then regardless of the orgy of buying to take a modest profit, when dealers strive to offer custom-done, the country is not prospering.

Honest effort and a square deal are the two things that are essential to real prosperity and they are the two things that formed the basis of Mr. Vogelpohl's policy. Some concrete examples of this policy are to be found in the following instances:

One day a man who was building a home asked Mr. Vogelpohl what he would charge for doing the plumbing and heating in it. Mr. Vogelpohl, after looking over the plans, told him it would amount to about $2,500. He was told to do the work and keep his figures within the $2,500 limit. When the work was done, Mr. Vogelpohl presented a bill for $2,104. This bill first went through the hands of the secretary to the man who was having the work done. The secretary, who knew Mr. Vogelpohl had given an estimate of $2,500, called on him and told him that he might as well tack on a few hundred more as the owner was perfectly willing to pay anything up to $2,500. Mr. Vogelpohl refused to alter the bill which in due time was presented to the man having the work done. When this man saw the bill, he called on Mr. Vogelpohl and told him he must have made a mistake, for the approximate estimate had been four hundred dollars more than the bill called for. Mr. Vogepohl, however, answered that he had done the best job he knew how to do, had accurately charged the labor, material, and overhead, and then had added what he considered a fair percentage for profit.

**A Two-Ton Truck—Part of John J. Vogelpohl's Hauling Equipment.**

the same margin of profit that he figured on jobs where he had not given an estimate, and that that was all he would accept. Not long after that a firm, that was having a large building put up, asked Mr. Vogelpohl to do the plumbing and heating without even requesting an estimate. The head of this firm proved to be the same man who received the bill for $2,104.



**Welding Equipment Owned by John J. Vogelpohl, Ready to Be Sent Out to a Job.**

At another time he had a job putting in two fixtures for an old German who was particularly "tight-fisted." Mr. Vogelpohl overlooked a certain fixture in an out of the way part of the house, which, according to the plumbing code of Cincinnati, made it necessary to vent any additional fixtures in a certain way. Since Mr. Vogelpohl did not see the first fixture, he vented those he installed in the usual manner for that number and had his work condemned by the plumbing inspector. The old German was highly incensed when told the work had to be done over again, and informed Mr. Vogelpohl that he wouldn't pay a cent for the installation. Mr. Vogelpohl told him to calm himself, as he would neither receive a bill for the changes, nor one for the work in the first place. This took all the steam out of the old German, whose sense of fairness made him offer to pay for the fixtures and other material used, and finally to pay the actual cost of the labor without any overhead or profit. "No," said Mr. Vogelpohl, "you can't pay me a cent. I should have looked around more carefully in the first place to see what other fixtures you had in the house. It was my mistake, and I'll pay for it. That's the way I do business." Since then considerable work has come to Mr. Vogelpohl through this old German, a great deal more than enough to make up the loss on the job.

Following a policy of absolute honesty and fair dealing has proved most profitable, however, to Mr. Vogelpohl, for he does an average non-competitive business yearly that amounts to $75,000. This is in addition to a large competitive business. Starting with nothing, Mr. Vogelpohl now owns a most profit-

able plumbing and heating business, which is housed in a building 125 ft. by 25 ft. and three stories. The first floor front is devoted to a retail hardware business, which Mr. Vogelpohl also owns. Recently he bought a new home for which he paid $35,000, which is a beautiful building with extensive grounds on the outskirts of the city. In addition he owns an apartment building, a theater and has substantial interests in other enterprises. These outside interests, however, represent investments of money made in the plumbing and heating business.

Though honesty and fair dealings are the foundation of substantial business, they alone will not bring profits. That requires good management, it requires the faculty of keeping men loyal and thus getting their best efforts, and it also requires the ability to secure efficiency and eliminate waste. These qualities Mr. Vogelpohl possesses in a high degree. Square dealing with the men has made them loyal. Even when some of them have gone into business for themselves, he has tried to help them by showing them the fallacy of taking low bids just to get business on which they make no profit. He has tried to educate them in the rudiments of business, to help them figure, and in other ways to give them a boost up the ladder instead of attempting to undermine them. He believes that he will get plenty of business for himself, that he will keep in the lead; but he also believes that unless he can stay in the lead through greater knowledge of the business, through his ability to give his customers greater value for the money received, and through greater general business efficiency, then he is not entitled to stay in the lead. Mr. Vogelpohl does not worry about those just starting in business, because, he maintains, it takes a long time to build up a really efficient organization and to learn to do business with the lowest possible waste of energy and material, nor can the beginners buy as well. Mr. Vogelpohl buys in large lots, and in so doing can get high grade goods at as good a price as many who buy in small lots are obliged to pay for an inferior grade. In this way he is able to give a customer the best of goods at nearly the same price that the beginner would have to get for a much poorer quality.

Mr. Vogelpohl believes in keeping in step with the progress of the trade. He has much of the new equipment that is finding its way into the plumbing and heating business as, for instance, oxy-acetylene welding and cutting equipment; properly equipped trucks; a paper compressor which earns several times its own price every year and at the same time keeps loose wrapping paper, etc., from littering the floors; and he also has a model kit for the repair men which eliminates much waste of time, for it contains most of the things that a plumber will need on ordinary jobbing work. It is 14 inches long, 10 inches wide, and about 6 inches thick. In it are drawers containing flush balls of all makes, feather edge washers for closets, washers, screws, and packing for all bibbs, etc., and various other things including emery paper. Men who do repair or jobbing work are never sent out on new work. According to Mr. Vogelpohl many men who are particularly good on jobbing work are not so good on new work, and many who are very good at new work are not very good on jobbing, and that therefore, he keeps the men at the work they are best fitted for. Building an organization composed of high grade dependable men and fitting them into places where they are best suited is not an easy task, nor one that can be done in a hurry. Therefore, Mr. Vogelpohl tries to keep the same force all the time. If there happens to be nothing to do for some of the repair men for a few hours or even for a day or two, they are kept busy in the shop rebuilding heaters or doing anything else that will make profitable use of their time.

Though Mr. Vogelpohl has a large business which has kept him very busy, he has never been too busy to give liberally of his time, effort, and money to the advancement of the trade, particularly through association work. He has been president of his local and state associations and a director of the national association. And he has also supported association work liberally in a financial way, for, to put it in his own words, he "believes in paying his share of the freight." He is also a member of the Rotary Club, the Cincinnati Chamber of Commerce, and a great many other organizations which demand the making of sacrifices for civic betterment. The record of John J. Vogelpohl is evidence of what may be accomplished in the plumbing and heating business through determination, hard work, high principles, and the policy of a square deal for everybody. He has done much for the advancement of the trade. The high esteem in which he is held and the financial success he has attained should furnish inspiration for others.

## OVERHEAD AND PROFITS

### "If You Don't Figure Overhead You Might as Well Make Reservations at the County Poor House," Says "Joe" Osier.

**Recently an** ol' warhorse, a man who has been identified with the plumbing and heating game for "nigh onto twenty year," tendered his resignation to his local association, saying that he was going to leave the works flat on its back—

**Because there** was absolutely nothing to it or in it.

**This man,** in spite of the fact that he had labored hard, long and conscientiously, had succeeded in saving nothing—had acquired nothing but horny hands—

**And his** "rainy day" had set in.

**I understand** this man always figured if he got 100 buttons for a job on which the material cost him 95 smacks, he was five bones to the merry.

**You see,** he carried his office in a sack and saw no necessity of allowing for overhead, which

**No doubt** is the reason why he aimed himself for the exit and complained about the plumbing and heating business being all wet and half burnt.

**Now we** all know that any Master Plumber or Heating Engineer worthy of the handle, will tell you if you don't figure overhead, you might as well make reservations at the County Poor House, and—

**The smart** crackin' Guys, as long as they have their health and a good sharp pencil, are in no danger of occupying a bunk furnished by the county.

**And by** the same token, the wise Birds are not buying jobs. If they can't see where they can do work and accumulate a little velvet for the poke, they will lay off and let the ambitious amateurs back into the business end of the bee—

**Because, they** know that if the profits are not accruing, the Sheriff and some husky deputies will be backing up to the door, and some leather lunged creditors will be asking, "How Come?"

**Unless you** are anxious to become acquainted with the boys that do the heavy lifts, save your old clothes for a job that promises a fair profit and perhaps a little gravy to keep the private gas wagon honking.

**The Administration** at Washington leads us to believe that the far famed normalcy is just around the bend, so it behooves us to park our "dogs" on the office heater and sit pretty until zero hour for the Big Push, when we can move out and slap plumbing fixtures and heating equipment in at a figure which will enable us to punish good cigars and pay all bills on demand.

**The plumbing** and heating game is not a guess or a gamble but a legitimate business enterprise, therefore,—

**It is up** to the Men of the Trade to give service, cut the mustard on the job and to get a fair profit for their efforts.

**Never ring a "No Sale" on the register.**

# "RETURNING *the* WATER *to the* BOILER"

*The Third of a Series of Articles Describing and Illustrating Modern and Practical Methods of Returning the Water to the Boiler*

*By* L. M. Emmett

(Continued from Page 517 in the September 17th issue.)

THE Boiler Return Trap, because of its reliability and entirely automatic action, is becoming more and more popular, especially on low pressure heating systems. It is peculiarly well adapted to vapor systems of large size, where it becomes necessary to carry pressures at the boiler which without such a device would hold the returning water at an excessive height in the returns. Their use permits placing radiators at much lower points in relation to the water-line of the boiler, and avoids the necessity of placing the boiler below the grade of the boiler room floor with the accompanying very objectionable pit. Fig. 12 shows a system in which the principal portion of the system is well above the water-line of the boiler, but having an additional system, on a separate pipe circuit, at or below the level of the water in the boiler.

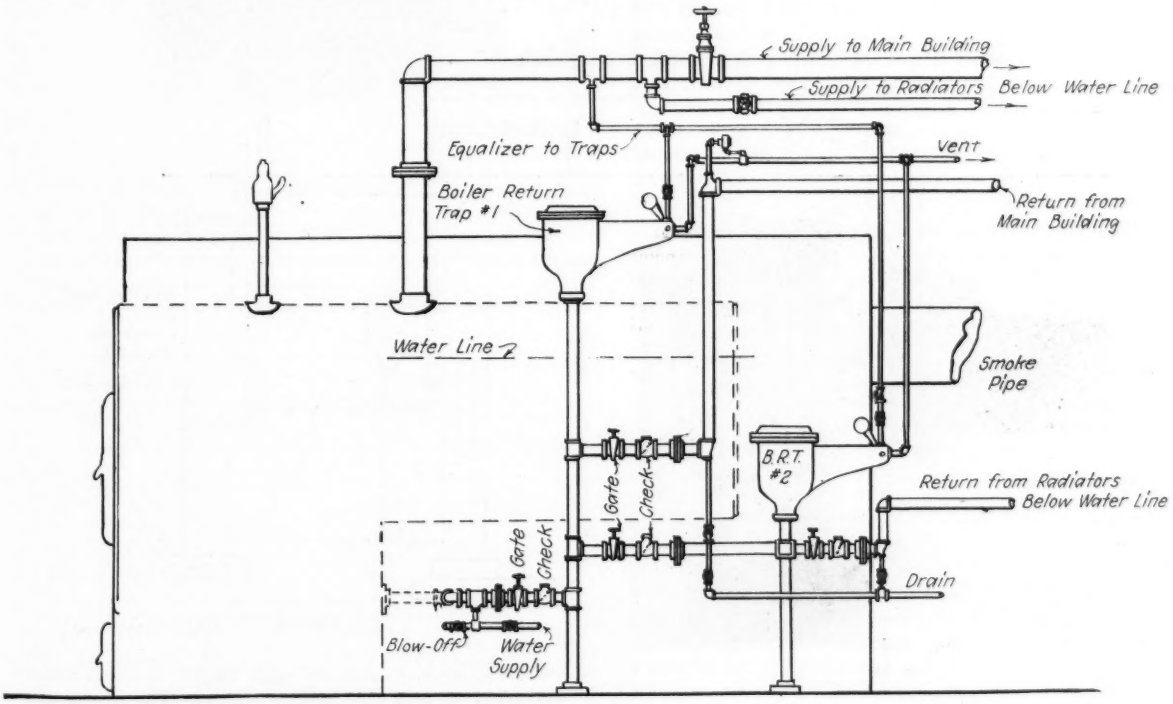



Fig. 12.

Both are so arranged as to be entirely independent, and trap No. 1 which controls the returns from the higher levels, normally acts merely as a vent for the air which is returned through the radiator traps, but when the boiler pressure rises to a point sufficient to operate the float within the trap, it throws over and equalizes the pressure intermittently until normal operating conditions are restored. Trap No. 2, however, is in constant operation, and usually is acting while the upper system is returning by gravity. There are times, however, at higher boiler pressures when both traps are working together. The arrangement of the check valves is such as to direct the course of the returning water at all times. Both traps are arranged so as to permit by-passing the condensation to the sewer. Both traps are vented, the upper to allow both air and steam to escape; the air during the filling of the trap, and the steam after emptying; the lower trap handles no air, except a very small quantity returning with the condensation; separate venting provision is made, above the water-line at a point before dropping below the water-line.

Fig. 13 illustrates an extension of the same system, to include a heating system for a building across the street, and provides for lifting the condensation a considerable distance. As in the system shown in the previous illustration, the separate portions are controlled and supplied by individual valved

circuits and are provided with drawing arrangements to by-pass any one, or all, to the sewer.

When an arrangement such as this is used, where one or more of the traps act as a lift trap, it is highly important that sufficient pressure exist at the boiler at all times to assure the return of the water. One pound pressure will sustain a column of water 2.31 ft. in height. But in practice, where the parts of the trap and the lifting of check valves, plus the friction of pipe and fitting must be overcome, it is best to provide a pound of pressure for every foot the water is to be lifted. In order to make certain the required pressure it is best to put a boiler protection valve in the line. Such a valve is shown in place in Fig. 13, immediately beyond the connection which has been taken off for the equalizing connection to the traps. It is shown in detail in Fig. 14. This valve will not permit any steam to pass to the system, until sufficient pressure exists within the boiler to operate trap No. 3 and lift the water the vertical 20 ft. in height.

As 20 lb. is excessive for the heating system, and unnecessary for proper circulation, the pressure is reduced to 2 lb. immediately beyond the boiler protection valve; a pressure regulating valve with by-pass being placed as shown, and having an equalizing connection from a point about 15 ft. farther along on the heating main. The inlet side of the pressure reducing valve, with this pressure difference of 18 lb., should be two-thirds of the size of the outlet side.

The vents from the traps are connected together and lead to the smoke stack, so that the small amount of steam which is discharged at each operation of the trap will not be discharged into the room. The equalizing connection from the boiler to the traps is provided with valve at each branch, so that separate control may be had. All of the pipe connections and valves and check valves of the return lines should be of ample size, and so placed in relation to other lines as to permit examination or repairs to any separate circuit, check valve, or trap. Individual blow-off for the boiler must be provided, and draining of each circuit separately will be found a great convenience at times.

Fig. 15 illustrates a system where high pressure and low pressure returns are both handled. High pressure steam traps are

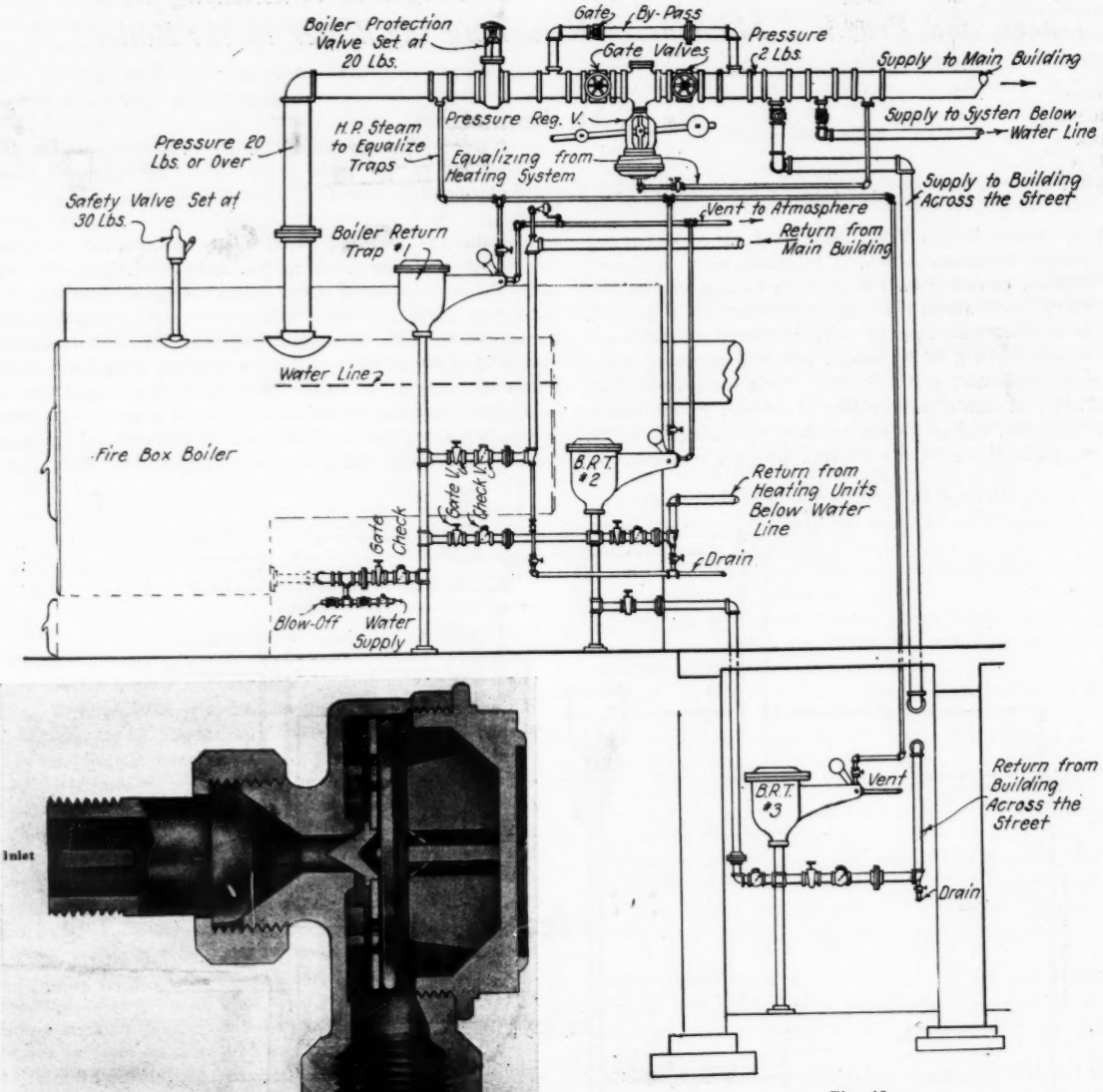



Fig. 13.

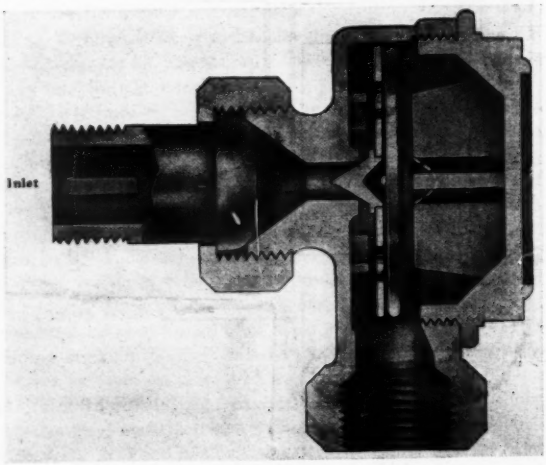



Fig. 16.

shown supported on a platform, to which the condensation is brought from fixtures using high pressure steam, such as the sterilizers, laundry and kitchen cooking apparatus. These traps are all by-passed and discharge into a receiver. The receiver is provided with a cold water connection, for use when the

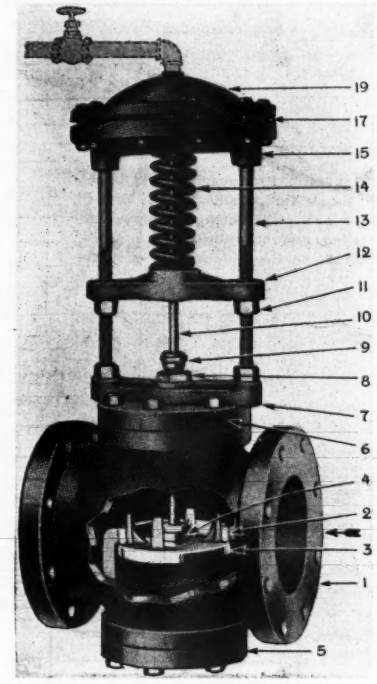



Fig. 14.

returns are too hot. The air which accumulates in the receiver, as well as the condensation, are trapped through a thermostatic trap, a dirt pocket is placed in the return, before the trap, and the entire arrangement is by-passed. All of the high pressure trap discharge condensation, and in addition two low pressure returns, are collected in an open receiver. This receiver is open

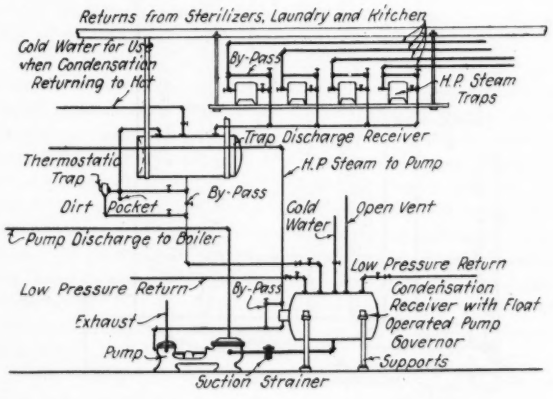



Fig. 15.

to the atmosphere through a vent pipe of large diameter, and is also provided with a cold water connection for make-up water, and for cooling purposes. The receiver is provided with a float, the movement of which opens and closes a valve mechanism for starting and stopping the boiler feed pump which delivers the water to the boiler. As all of the air has been vented, the pump handles only water, and therefore no provison is necessary in the discharge line to the boiler for the elimination of air. A suction strainer is placed in the line between the receiver and the pump, and a by-pass valve on the high pressure steam line so that the pump may be operated by hand control when required. The high pressure thermostatic

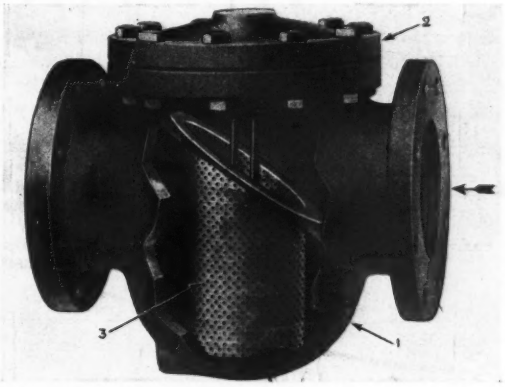



Fig. 17.

trap is shown in section in Fig. 16, and the suction strainer in Fig. 17.

(To be Continued.)

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**Corporate financing** for September was estimated at $205,791,800 against $145,022,600 for the same month last year.

**Thomas A. Edison,** attributing business dullness to fear, says the industrial world is using just as many employees as in 1914 and that "what we must do is to believe normal times are close at hand and live accordingly. As we gain confidence bankers will lend more money, mine operators increase output, manufacturers employ more help, prices come down and people buy normally."

**Leading railroad men** in New England do not hail with enthusiasm the Interstate Commerce Commission's tentative plans for railroad consolidations in this section. Some of the roads, like the Boston & Maine, are included in two or more groups, which in years gone by have been strongly hostile. "The best minds" among New England railroad men remain skeptical and pessimistic, for they remember the recent blow dealt by the commission at this corner of the country when by a six to four decision (one member absent) it refused to grant the urgent petition for a 10 per cent to 15 per cent increase in the divisions of through rates. One authority says: "The commission has played safe in proposing such widely variant plans. Settlement is far away, and meanwhile the New England roads, saddled with heavy expenses by labor, continue to lose money. Months will be required before the hearings are finished and the decision of the commission reached."

**Valuation of all Property** in New York City for taxation purposes for 1922 estimated at $10,614,807,047, of which real estate is placed at $9,947,323,092, an increase of $402,594,567 over 1921; personal property $667,480,950, an increase of $37,408,100.

**The Size of Families** in United States is steadily decreasing, average number of persons to a family in 1920 being 4.3, while in 1915 it was 4.5, in 1900 4.7, in 1890 4.9 and 1880 five people to a family were recorded, census bureau announces. The total population of United States in 1920 was 105,710,620 and it was grouped into 24,351,676 families residing in 20,697,204 dwellings. The average number of persons to a dwelling was 5.1 in 1920 while in 1880 it was 5.67.

# PREVENTING CORROSION *in* HEATING SYSTEMS

*By* Perry West

**Editor's Note: This article, prepared by Mr. West for "Domestic Engineering," is based on a paper recently read by him at the National Chemical Exposition, held at the Eighth Coast Artillery Armory, New York City. As the author points out, the rusting of pipes not only causes deterioration, but brings about a very rapid choking and stopping of the pipes. The subject discussed is therefore of more than academic interest to the plumbing and heating contractor.**

CORROSION, is by no means a new word in the vocabulary of the chemist. You wrestle with it continually and in many different forms. You know that it covers a world of destruction—that it is one of the really destructive agencies of all times. As a matter of fact it was one of the ancient symbols of destruction, and of the three—moth, rust and thieves—I believe rust has best survived our modern science and civilization. In other words we are still allowing a large part of our corrodable metals to revert to their original state, after expending a great amount of time and energy to extract them, instead of using proper protective measures. Most of this kind of destruction is now entirely unnecessary. We have known for a long time how to protect metal against the action of the elements and how to neutralize the free acids on acid forming compounds. We are now learning how to prevent the ordinary rusting action of water where protective coatings fail and where chemical treatment is unnecessary.

Scientifically, I believe that corrosion may be understood to mean the destruction of metals by some chemical or electrochemical action. Even in this field we have a great variety of actions. We have the corrosion of metals in contact with atmosphere, the corrosion of metals in contact with water, a combination of these, i. e., of a metal in contact with water and air, and the various forms of corrosion caused by the action of the different acids, alkali and salts.

We shall confine ourselves here to one phase of one of these actions. The simple corrosion which is usually caused by a natural uncontaminated water confined in a closed system and acting upon the metals of such a system. We shall confine ourselves more particularly to iron, steel and brass as these are the metals of which such systems are usually constructed.

Some striking examples of this kind of corrosion are to be found in the water piping, boilers, heaters and tanks of buildings; in the feed systems, boilers, economizers, heaters, and pumps of power plants; in the various water handling systems of industrial works and in the water handling systems and power plants aboard ship.

The general effects of such corrosion include: an enormous destruction of apparatus and piping, the clogging and stoppage of pipes and passages, discolored and dirty rusty water, and a great deal of expense, trouble, and inconvenience. The dirty rusty water thus produced in the domestic hot water systems of buildings is very objectionable and unsanitary. That produced in bleacheries, dye works, laundries, tanneries, and many other of our industrial works, is very injurious to the products of these industries.

The already tremendous rate of such destruction in power plant and industrial apparatus is rapidly increasing with the advent of higher pressures and temperature, while the annual destruction in domestic hot water systems is very great. All of this is causing a great deal of expense, trouble, and inconvenience, connected with the damage and repairs to apparatus, buildings and furnishings.

Corrosion in these systems may be due to one or more of the several causes mentioned above, but there is but one

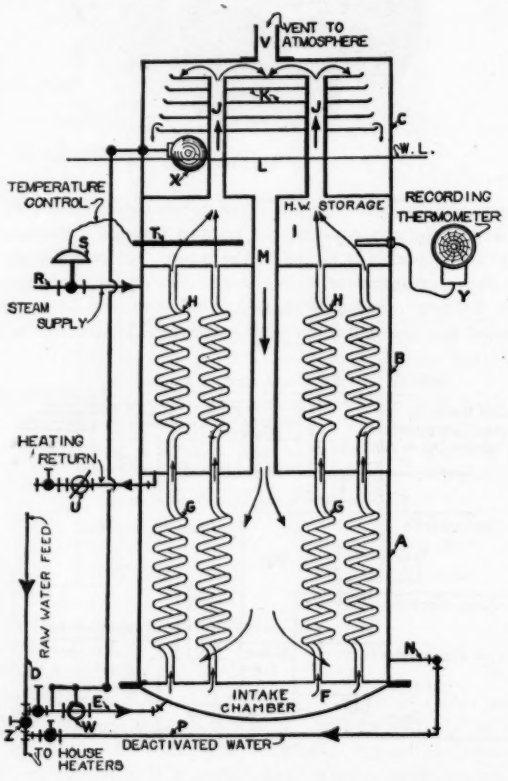



**Fig. 1.—Diagrammatic Arrangement of Deactivator.**

of these causes which is found in practice to operate more or less universally wherever natural waters are used in contact with these corrodable metals. We refer here to the simple oxidizing or rusting process. It has always been such a natural appearance for iron in contact with water to rust that until quite recently it has been taken as a matter of course that water always had and always would corrode this and cer-

tain other metals. It seemed to be so self-evident that no particular study was made of the subject for a great many years.

There were a great many phenomena connected with corrosion which could not be explained by the simple assumptions that the oxygen in the air or water alone oxidized or caused metals to rust. For instance, it was discovered that metals which corroded very easily in a damp atmosphere, corroded very little or none in an absolutely dry atmosphere; and also that metals which were ordinarily corroded by water failed to be acted upon under certain conditions.

The piping systems of closed hot water heating plants where the same water is circulated over and over, or the piping of sprinkler systems where the same water is allowed to stand in the pipes was discovered to undergo very little if any corroding action.

Starting with these and other known facts which seemed to indicate that it was not a matter of course for metals to be corroded either in air or in water, F. N. Speller, metallurgical engineer, of Pittsburgh, and Dr. William H. Walker, dean of applied chemistry at the Massachusetts Institute of Technology, started out a little over ten years ago to find out just what the causes of the corroding action of water upon metals are, and to devise some remedy for the cure of this enormously destructive action.

Up to this time most of the examples of corrosion already referred to were assummed to be perfectly natural hazards which were simply endured without any effective cure. Included in these was the corroding, pitting, and bursting of the hot water piping systems of buildings, with the resulting red and dirty water discoloration, and the costly repairing of pipes buried in walls, floors, etc., together with the annoyance, inconvenience and repairs to building construction and decorations caused by leaky pipes. Also the rusting away of the cold water piping of buildings and the corroding of the water pipes in power plants, industrial works, aboard ship, etc., and the corroding of boilers, economizers, engines and turbines.

Some concentrated study upon this subject finally disclosed the fact that there was no baffling mystery about it, but on the contrary that it is quite simple, when once we know all about it. There are a great many things for one to know, however, and the great trouble, of course, is to remember what we learn.

Corrosion is a physical and chemical phenomena guided by the same inflexible laws that govern all phenomena of this character; its tracery may be followed with the same certainty as that of any other physical and chemical action.

At the present time, the entire theory of this kind of corrosion has been very accurately worked out and very effective remedies have been developed. In the working out of these theories it has been conclusively shown that the rusting of metals does not take place to any appreciable degree unless the metal be in contact with both water and free oxygen, as the action at ordinary temperatures is practically nil where the metal is in contact with oxygen alone, or oxygen free water alone. In other words, all three elements, namely metal, water and free oxygen must be brought into contact. Once this fundamental fact is fully understood the whole subject of corrosion, of the character to which we are referring, becomes quite clear.

Briefly stated this theory of corrosion is: that the iron or other metal in contact with the water first dissolves according to the solution pressure of the metal. The next step is that the dissolved metal hydrolizes by combining with the (O H) radical in $H_2O$ and sets hydrogen free. The hydrogen thus set free tends to plate out on the surface of the iron due to very weak electrolytic circuits set up between different parts of the metal, which act as battery plates, with the water as an electrolyte. The accumulation of small hydrogen bubbles on the surface of the iron tends to polarize these circuits and, unless disposed of, will very quickly create an equilibrium causing the above action to cease. In practice, however, there is always enough free oxygen dissolved in natural waters to combine with this hydrogen and prevent this polarization, thus allowing the action to continue as long as raw water is added to the system. This results in the formation of metallous hydroxide, which is the first stage of corrosion. The process would not proceed beyond this stage if it were not for the further action of other portions of the free dissolved oxygen in the water. This oxygen continues to act, however, first to oxidize the metallous hydroxide to the metallic hydroxide, then

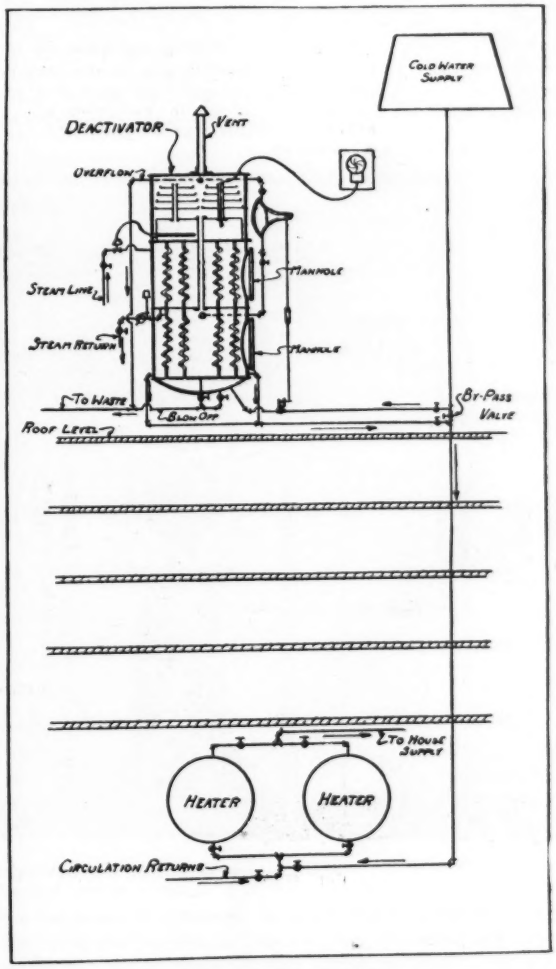



Fig. 2.—Diagram of Connections.

to the metallous oxide and then to the metallic oxide, which in the case of iron or steel is ordinary red rust.

In the foregoing we have discussed the corrosion action of water without reference to the influence of any free acids or salts which it might contain. Inasmuch as most natural waters carry dissolved carbonic acid and some salts, the natural question is—what bearing do these have upon corrosion

Carbonic acid gives the water a slight acid tendency which makes of it a better electrolyte and speeds up the above process, but inasmuch as this acid is not strong enough to form a salt of the metal or to dispell the hydrogen gas from the water, it will not force the action beyond the polarization stages unless free oxygen be present. Carbonic acid will, therefore, speed up the rusting process only in case free oxygen is present, but will not cause appreciable corrosion in its absence.

Stronger acids, such as sulphuric or hydrochloric, will, of

course, attack the metal and cause corrosive action entirely apart from the actions discussed, provided they occur in proper concentration, but even these actions are very materially increased by the presence of free oxygen to keep the metallic surface more or less free of hydrogen. In such weak concentrations as are ordinarily found they are inactive without free oxygen.

The relation of the different salts, ordinarily found in natural waters, to corrosion is varied. These dissolved salts differentiate hard from soft waters.

The general effect of the carbonates and some other temporary hardening alkaline salts is to retard corrosion. This is brought about by the protective coating deposited on the metal—especially if the water is heated—and by the alkaline reaction of these substances in the water. So marked is the influence of these temporary hardening salts upon corrosion

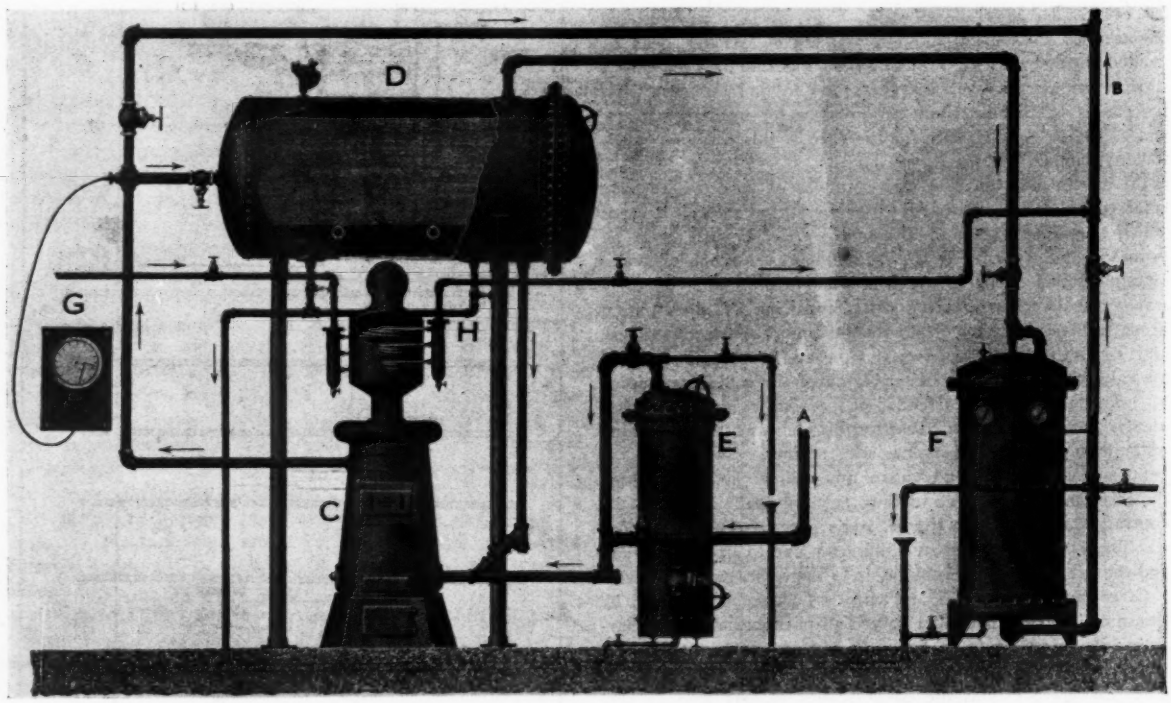



**Fig. 3.—Arrangement of Deactivating Plant Where Coal or Gas Heater is Used.**

that some of the harder waters, especially in limestone districts, are practically non-corrosive, except at very high temperatures. Some exceptions may be found to the rule in the case of sodium and some other carbonates which form caustics and acetates at high boiler temperatures, setting free oxygen, which in conjunction with each other cause, rather increase than retard, corrosion.

Some of the chlorides, especially magnesium chloride, will hydrolize and partially dissociate into magnesium hydrate and hydrochloric acid, which acid combines with the metal of the pipes, etc., to form a metallic chloride, setting free hydrogen. The amount of hydrochloric acid thus set free in ordinary cases is very small, and if allowed to act but once and then come to equilibrium, would cause comparatively little corrosive trouble.

If free oxygen be present in the water, however, which is usually the case unless particular pains have been taken to remove it, this free oxygen combines with the hydrogen set free, forming water and depolarizing the electrolytic circuit, thus allowing the process of corrosion to proceed. In the meantime the new metallic chlorides formed may re-hydrolize, forming the metallic hydroxide and setting the hydrochloric acid free again. The process will then begin all over again and continue as an indefinite cyclic process, so long as there is enough free oxygen present to keep the electrolytic circuit depolarized. As new water is added additional hydrochloric acid is set free and if allowed to concentrate, as in boilers, is one of the most dangerous corrosive elements met with in practice.

In the case of sea water which is sometimes heated for bath purposes, this action is very marked and can only be retarded by neutralizing the acid or by the removal of the free oxygen from the water.

In the case of power plants where high enough temperatures are carried in the boilers, economizers, etc., the sulphates and nitrates of calcium and magnesium may be broken up so as to act very much the same as the chlorides in the lower temperature systems.

The sulphates and nitrates are not materially affected by the temperatures of ordinary domestic hot water, and have no particular bearing upon incrustation or corrosion in these systems.

It will be seen that soft waters and such hard waters as contain small quantities of bicarbonates are not scale forming in ordinary hot water systems and do not, therefore, tend to protect against corrosion in this way.

The foregoing gives a fair idea of the relationship between the chemical properties of the water and the subjects of incrustation and corrosion, from which it may be seen that a good chemical analysis of the water is a very helpful factor in designing apparatus for protection against corrosion.

Little or no reference has as yet been made to the influence of temperatures upon corrosion.

This corrosive activity being an electro-chemical action involving hydrolizing and ionizing, naturally takes place much faster at high than at low temperatures. The corrosive activity in domestic hot water systems is, therefore, from five to ten times as rapid as in cold water systems, other conditions being equal. In the case of sea water the magnesium chloride augments the

action so as to make corrosion with cold salt water almost as serious as with hot fresh water. In power plants the action may be many times as fast, depending upon temperatures. At 150 degrees it may take as much as one hour to complete the corrosive action, while at a temperature of 212 degrees one minute is sufficient.

Ordinary potable waters, with the exception of some deep well, or other ground waters, contain on an average about 5 per cent of dissolved air. Of this there is usually about 20 per cent oxygen, which means about 1 per cent of oxygen by volume at ordinary temperatures and atmospheric pressure. Much higher saturations may be reached under higher pressures such as are generally found with air pressure tank systems. Every pound of this oxygen may be responsible for at least 3 pounds of corrosion, which means that for every thousand gallons of water about 0.25 of a pound of iron or steel may be eaten away by this corrosion. Inasmuch as the useful life of ordinary iron or steel pipe is practically ended by pitting when 20 per cent of its weight is corroded away, the rate of destruction in a hot water service system may run as high as 1.25 pounds per thousand gallons of water. This would mean the loss of about 1,000 pounds per year for an ordinary size building, which would represent a replacement cost of about $2,000. It is estimated that the annual loss concurring in this way in domestic hot water service systems alone throughout the United States amounts to $50,000,000.

In domestic hot water systems a reduction to 1 C. C. of free oxygen per liter of water may substantially stop corrosion while with high temperatures in power plants it must be reduced to 0.2 C. C. per liter.

As has been suggested, the way to prevent this corrosion is to eliminate this free oxygen, and you will no doubt be interested in some of the latest progress in the development or commercial apparatus for this purpose.

Basically there are two methods which may be designated as the deoxidizing method and the de-aerating method. The deoxidizing process is carried on by allowing the hot water to pass from the heater into a tank or deactivator where it is brought into contact with thin sheets of perforated metal, especially prepared, and arranged to allow the water to exert its corrosive activity upon this comparatively cheap and easily replaceable metal instead of upon the more expensive and less easily replaceable materials of the piping system. If the water is to be used for domestic or certain industrial purposes, it is then passed through a hot water filter to free it from the objectionable discoloration caused by the products of corrosion in the deactivator, and is ready to use in the system without danger of any further corrosion or discoloration.

The de-aerating process is carried on by removing the free dissolved gases from the water by heating, by vacuum, or by a combination of the two while the water is in a highly divided state brought about by spraying or cataracting over baffles in a deactivator. This process, as will be easily understood, removes not only the oxygen, but the other free dissolved gases, such as $CO_2$, nitrogen, etc.

The removal of all gases eliminates air binding and splashing difficulties, besides stopping corrosion.

Water thus treated by either process for the removal of its active corroding elements is sometimes termed deactivated water, meaning that it is minus its corroding activity.

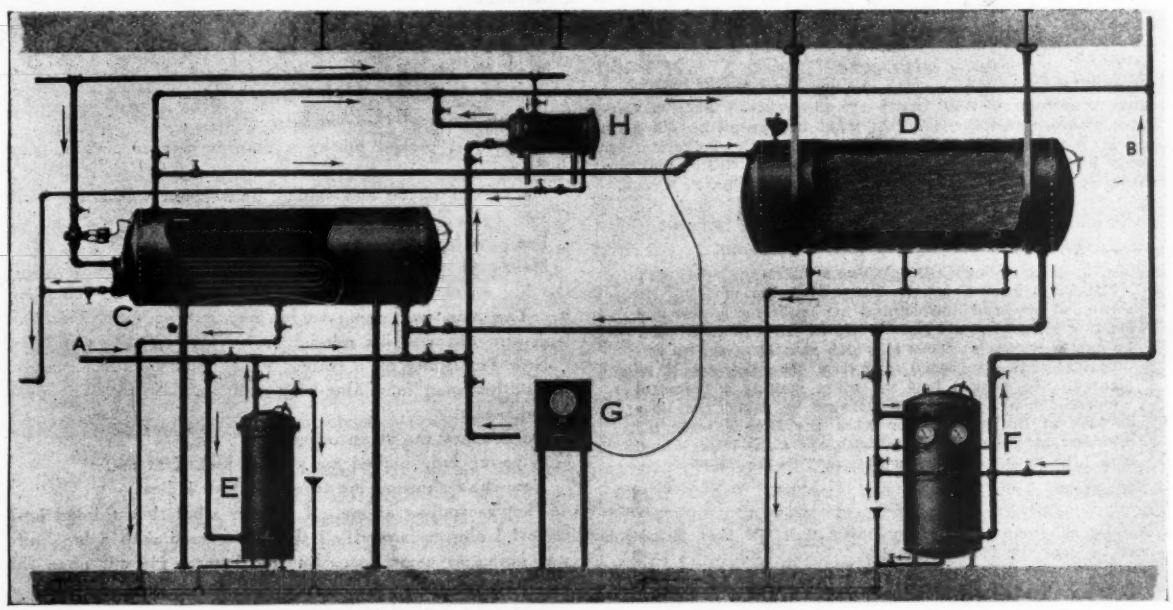



Fig. 4.—Arrangement of Deactivating Plant Where Steam Heater is Used.

The removal of oxygen by the deoxidizing process and the removal of the gases by the de-aerating process amounts to from 90 per cent to 99 per cent of the quantities contained in the raw water in some of the commercial apparatus now on the market.

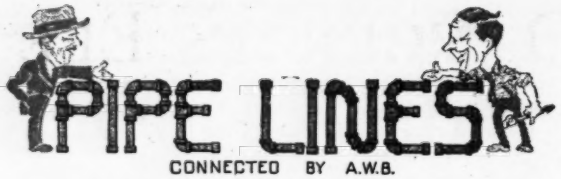
Numerous experiments have shown that the rate of corrosion is practically in proportion to the percentage of free oxygen present, so that a removal of 90 per cent means an increase of ten-fold in the life of pipes and other apparatus protected.

If the average useful life of iron or steel hot water service systems using raw water be taken at from 7 to 10 years, the average life of the same system, using 90 per cent oxygen free water, would be from 70 to 100 years. Inasmuch as this is far beyond the life of the average building a removal to this point is considered quite sufficient for this kind of service.

If the average useful life of a brass system be taken at from 20 to 30 years with raw water, the useful life of the same system using deactivated water might be from 200 to 300 years.

The rusting of pipes not only causes deterioration, but on account of the rust occupying from 10 to 20 times the space

(Continued on Page 82.)




### UP-TO-DATE.

Old Father Hubbard
Went to the cupboard
To get himself a drink;
But when he got there
The cupboard was bare,
So he got a drink at the sink.

MOONBEAMS, Cincinnati.

### AMONG THE CLASSIFIED.

WANTED—Job in a restaurant to mash potatoes by a man with a wooden leg. X 7-11.

FOR SALE—A modern home with pedestal plumbing. E. G. H., Chicago.

### MISTAKES.

When a Doctor makes a mistake he buries it. When a Preacher makes a mistake nobody knows the difference. When a Carpenter makes a mistake, it's just what he expected. When an Electrician makes a mistake he blames it on the induction, for nobody knows what that means. But when an Editor makes a mistake—good night!!! L. S., Battle Creek.

### THE WEEK'S BEST WHEEZE.

**Why He Didn't Get a Raise.**

Harold wanted a raise. He needed the money. He scratched his head and combed his brain for a new and striking idea. Ah! At last he had it. In a store window he saw a woman's gown, to which was attached an appropriate sign. He would copy this. The Boss would be pleased. He worked half the night making a beautiful window display. The next morning he asked the Boss to look at it. And this is what the Boss saw in his window: A Fine Bath Tub, with the sign—How Would You Like to See Your Best Girl in This for $35?

D. J. H., Chicago.

A wise salesman is one who knows that the best picking is where he does the most scratching. SAIL, St. Louis.

### AND THEN THE BAND PLAYED.

R. T. Lawrence, Sales Manager of the Monarch Engineering Company, Dayton, Ohio, tells this on his fellow townsman, "Jimmie" Cox, who, you may remember, once ran for the presidency of the United States. By the way, Mr. Lawrence hails from Natchez, Mississippi, so the story can't be charged up to political prejudice.

If you have heard Mr. Cox, you know he is not famous for the William Jennings Bryan brand of oratory. He had finished a speech in a small eastern town. He paused and asked, "Is there anyone here who would like to ask a question?"

There was a moment of silence. Then a man in the gallery drawled out: "Yes—what time is it?"

### PLUMBERS TAKE NOTICE!

Count that day lost,
Whose low descending sun
Sees prices cut to hell,
And business done for fun.

A. H. F., Melrose, Mass.

An intelligence test in a Pennsylvania school developed some rare gems. Here are three of them:

A radiator is an old-time strong man.

A plumber is a man who raises plums.

A wrench is what you give a door when it sticks.

DEE BEE, Harrisburg.

### HE WAS SO IGNORANT

He thought Sanitation was a patent medicine. L. J., Des Moines.

Some folks seem to think that Knights of the Bath are Saturday Nights.

**We're Waiting for Your Best Story.** A. W. B.

# ABOUT MYSELF

*By* Myself

I am a little sticker.

My name is Bathaday.

Postage Stamp is my grandfather.

I am like him, for I stick for keeps.

I am about to start on a long journey.

I know this, for a young lady just took me out of my box and kissed me goodbye.

I have seen this done to my brothers, and they never came back.

I wonder where I'm going?

I feel all stuck up on this big envelope.

Well, I'm on my way—down a long, dark chute.

Sufferin' mackerel! Oh, what a jolt! I hope I don't have any more of these sudden stops.

I was just picked up by a man in a sort o' blue-gray uniform.

He looked at me and smiled, and—what was it he said? O yes, he said, "That's no lie."

I'm now in a dark bag.

Me-o-my! but I just had a narrow escape. Something hit the big envelope I'm holding on to—stamped it—smashed it. The man was going to hit me, but he took a second look and changed his mind.

Now I'm riding on a train. I like this.

Another man in a blue-gray uniform has me slung over his shoulder.

He dropped me at an office.

A young lady picked me up and looked at me.

Now she's showing me to some other ladies.

They're smiling at me. I wonder what they think I am?

Oh! I almost fainted! I thought a man with a big knife was going to carve me. But he didn't. He cut open the fat envelope.

The man looked at me.

He threw me into a basket. Then he picked me up and put me into his pocket.

He took me home with him.

Now his little boy has me.

The boy is trying to make a picture of me on a piece of paper.

Well, the picture looks pretty good.

The boy is showing me to a lady, and there are many children all about.

The boy has a stick of something white, and he is drawing a picture of me on a black wall.

Bing! I was just dropped into another basket.

Where am I going now?

Oh! how hot I am.

I can see this is my finish.

Well, I've lived my life. A lot of people have seen me, and I guess a few of them will think of me once in awhile.

So long.

# ELIMINATION *of* DANGEROUS ELEMENTS, GASOLINE, VOLATILE OILS ETC., *from* PUBLIC SEWER SYSTEMS

*Paper Read Before the Sixteenth Annual Meeting of the American Society of Sanitary Engineering, Recently Held in Cincinnati, Ohio*

*By* Aden E. Smith

Aden E. Smith.

THE invention and perfecting of the internal combustion engine has been of great benefit to humanity, but, like all other developments of civilization, it has brought its responsibilities with attendant problems to solve. The automobile furnishes the most common type of this engine. Motor vehicles have ceased to be only a luxury, and are now recognized as a necessity in practically every branch of commercial and professional life. They have developed into a powerful force for the advancement of civilization, but like all other blessings, they are often misused and abused.

Everyone is acquainted with the dangers of speeding, skidding, collisions, etc., but few realize that the machine itself is not the only source of danger. The fuel used to operate any internal combustion engine must of a necessity be inflammable, and, to a certain extent, explosive. Most people know enough to keep fire away from gasoline which is the fuel most commonly used in automobile engines, and many are learning the dangers of the products caused by combustion and know the necessity of good ventilation in garages, especially if an engine is running.

Some people, however, while careful enough as to their own safety in handling this highly explosive and volatile liquid, do not realize the potential danger of introducing it into the public sewers even in small quantities.

Before the use of automobiles became so common and before the dry cleaning business assumed its present large proportions, it may have been permissible to allow small quantities of gasoline, benzine or naphtha to enter a public drain with impunity, but now every other house has a private garage and every other square a public one, to say nothing of the large number of dry cleaning establishments and other places using volatile liquids, so that it has become a matter of public concern to see that none of these dangerous fluids are permitted to enter our sewers.

For a number of years past, we have occasionally picked up our newspaper and read where a manhole cover or perhaps a street has been blown up by some mysterious explosion, resulting in the loss of lives and a large amount of property damage. It has only been in the last ten years, however, that the real cause of such disasters has been recognized. Formerly, they were attributed to various causes. Mostly the belief that gas from the street mains had penetrated the sewer prevailed, and even the notion that sewer gas caused the damage was advanced, but it is now generally admitted that vaporized oils and gasoline have caused practically every one of these accidents.

In gathering data for this paper, the writer communicated with a large number of cities to determine what had been done toward preventing such accidents, and to obtain if possible a history of any street explosions that may have occurred.

About one-half of the cities to which such inquiries were addressed replied, but all were somewhat reticent in regard to details of accidents, but giving considerable information in reference to ordinances adopted for the purpose of preventing future ones. We will endeavor to give a composite outline of some of the methods used to prevent such disasters as well as our own views upon the subject.

Under date of January 20, 1921, J. C. McCabe, commissioner for the city of Detroit, wrote that a very serious explosion had occurred in that city in March, 1916, which destroyed a considerable length of a large sewer in Scotten Avenue and that quite a number of minor explosions have occurred from time to time.

On March 1, 1920, Detroit adopted an ordinance entitled, "Rules and Regulations Governing the Use, Handling, Storage and Sale of Inflammable Liquids and the Products Thereof in the City of Detroit." When it is stated that this ordinance has ten chapters and 122 sections, some idea will be conveyed of its completeness.

The first chapter deals with general references, inspections, etc.; the second, with the general requirements for storage, handling of volatile liquids; the third, with capacity and location of storage tanks; the fourth, with piping and appurtenances; the fifth, with refineries, jobbing plants, warehouses, distributing stations, retailing and containers used; the sixth, with paints, varnishes and similar commodities; the seventh, with garages; the eighth, with dry cleaning; the ninth, with penalties, and the tenth, with nitro-cellulose films.

Under date of January 19, 1921, Robert Adamson, fire commissioner of the city of New York, forwarded me a copy of that city's ordinance regulating these matters, which is also very complete, showing that the larger cities have realized the very great danger from volatile oils, and the necessity for their regulation, especially as to their disposition in the public sewers.

This ordinance is also quite bulky, consisting of some sixty-three printed pages, divided into twenty-six articles and two appendixes, covering the following subjects:

General provisions and definitions, certificates and permits,

fees for permits, mineral oils, inflammable mixtures, combustible mixtures, garages, motor vehicle repair shops, dry cleaning establishments, storage places, paints and varnishes and miscellaneous subjects.

In spite of these regulations, New York has had a number of very disastrous street explosions, resulting in loss of life and great property damage.

Under date of January 18, 1921, Chief Fire Warden Thomas F. Connell, of the city of Cleveland, advised the writer that on or about September 25, 1920, there was a serious fire and explosion on Carnegie Avenue, resulting in the injury of several workmen, caused from gasoline in a sewer trench. The ordinances of Cleveland prohibit the drainage of gasoline and similar products into the public sewers.

John F. Mertz, chief of the fire department in the city of Akron, O., states that several serious fires have occurred in that city which undoubtedly resulted from gasoline in the public sewers. It does not appear that that city has an ordinance fully covering this matter but the fire warden has used his authority to prevent the misuse of the sewers by the drainage of dangerous elements into them.

Under date of January 17, 1921, a letter from J. C. McDonnell, chief of the bureau of fire prevention and public safety for the city of Chicago, advises the writer that no explosion of any consequence has occurred in Chicago sewers since 1914. He attributes this splendid record to the fact that city ordinances have for the last seven years prohibited the direct connection with city sewers of any garage, or other buildings, where gasoline and other inflammable and volatile liquids are used. He states that a device called a "triple intercepting catch basin" must be placed between the last floor drain and the city sewer. Each basin is ventilated to the outside air, and are so constructed as to cause the volatilization of all oils before reaching the sewer and allowing the gases to pass harmlessly to the outer air. This latter statement appears very significant to the writer, because it emphasizes the importance of ventilation in connection with the safety of our sewer systems.

We can and should use every means and device possible to prevent the entrance of volatile oils into our sewers, and we can very largely do it so far as public garages and dry cleaning establishments are concerned, but it is almost impossible to regulate the numerous private garages and other places where large numbers combined, make a menace equal to the unregulated public garage.

We should, therefore, not only regulate such places by city ordinance, but we should so construct our sewers that the least possible damage may result when such dangerous elements do find their way into them.

The answer to this is to have perfectly ventilated sewers. Don't rely altogether upon perforated manhole covers for ventilation, but insist upon the abolition of the obsolete main house trap, and compel all house drains to extend full size through the roofs, without any obstruction whatever, thus obtaining complete ventilation for each and every sewer.

The writer has, in a recently published article, endeavored to show the fallacy of the main house trap, which, if it ever was justified, has long outlived its usefulness and become not only obsolete, but positively dangerous, because of retarding ventilation both of sewers and house drains.

Careful investigation has shown that so far as can be determined, all serious sewer explosions have occurred in streets where the buildings were equipped with main house traps.

We have, in former years, listened to many arguments both for and against this old style feature of plumbing, and it is not the intention of the writer to dwell upon the subject of house traps any more than is necessary to bring out the thought that a well-ventilated sewer is essential to safety and the best method of ventilation is to have every sewer connection a direct outlet to the air through the roof of the building. While in my opinion this factor has always held true, it has become much more important since the use of gasoline has become common.

As stated before, it is well to exclude such substances from the sewers so far as possible and not rely upon ventilation entirely as a preventive feature, but it should be used as a secondary precaution in every instance.

Ordinances and State laws should compel some safe form of garage catch basin or interceptor such as is used in Chicago, and the fact that this large city stands unique in that it has practically abolished sewer explosions speaks in its favor.

A garage catch basin should be so constructed as to cover the following points:

1. Separate the oil from the water.
2. Ventilate the gases to the outer air.
3. Prevent sewer air from entering the building.
4. Prevent sand from entering the sewer.
5. Provide for recovering the heavier oils.
6. Eliminate the possibility of igniting inflammable oils in the basin.

There are a number of garage catch basins on the market which purport to do these things and most of them are satisfactory. The trouble is that so few cities regulate this matter at all, and others only so far as public places are concerned, totally ignoring the necessity of applying the same principle to each and every place where gasoline is used, either public or private.

In addition to properly constructed receptors for wastes, from any building harboring an automobile, dry cleaning establishment or other place where volatile oils are used for any purpose whatever, and properly ventilated sewers to give egress to such gases as do enter them, there should be regulations covering the following points:

1. Definition of inflammable liquids.
2. Making application for permits to erect any building used for garage or other place where such liquids are used.
3. Regulating the storage of such liquids.
4. Regulating containers for same.
5. Adequate inspection of all such places and all piping and drains in connection with them.
6. Regulation of lighting facilities in such buildings.
7. Regulation of ventilation of them.
8. Regulation of their location in relation to other buildings.
9. Defining how they shall be constructed and such other rules and regulations as may be necessary to fully protect the public against the menace to life and property when abused, but a great blessing to all when handled properly and with just appreciation of its dangers, which are being augmented every day by the multiplied use of petroleum products.

## ILLINOIS MASTER PLUMBERS TO HOLD ZONE MEETINGS

The Illinois Master Plumbers' Association has just announced the dates for another series of zone meetings. The National Trade Extension Bureau will furnish the speakers. All the meetings will last a whole day beginning at 10 a. m.

This series of meetings will start Tuesday, October 11, with a meeting of Zone 3 at Aurora Hotel, Aurora, Ill. Zone 1 will meet at Waukegan, Wednesday, October 12, in the K. of C. Lodge Room at Columbia Hotel, corner of Water and County Streets. Zone 2 at Rockford Associated Athletic Club, 118 Water Street, Rockford, Thursday, October 13. Zone 4 at Kaskaskia Hotel, La Salle, Friday, October 14.

The meetings of the second week are scheduled as follows: Zone 5 will meet at Galesburg in Hotel Custer Tuesday, October 18. Zone 6, at Springfield, in the parlors of St. Nicholas Hotel, Wednesday, October 19. Zone 7, at Elks Home, 108 West Hill Street, Champaign, Thursday, October 20. Zone 8 at Laugenfeld Hotel, Centralia, Friday, October 21.

# COLLECTION LETTERS *that* COLLECT

*A Series of Letters That Has Been Tried on Hard Accounts and Found Very Resultful*

WE are through with the smiles, and the holes, and the piece of string. They served their purpose. They made clear the good nature and the friendliness of the writer. They made an appeal to the genial side of the debtor. If this appeal did not bring forth his money, it at least paved the way for the third letter in this collection series.

The man who owes cannot very well be offended if we now take a little firmer stand.

Good-natured letters work two ways. They appeal strongly to the good-natured fellow, and, as a result, they cause him to pay. To the fellow who is not so good-natured they make an appeal which he thinks he can take advantage of. In other words, he mistakes good nature for weakness. He may possibly imagine that because the first two letters are so friendly, settlement will not be pressed. In this he fools nobody but himself. The fact that he regards the two letters already sent as friendly, makes it all the easier to club him into payment with the rest of the series, and to come out at the end with his good will hanging to your belt.

The good-natured fellows have paid. The first two letters accomplished that much.

Now for the next class with letter Number three.

The tone has changed, but the change was not made abruptly. The smile is gone. Since the crusty class could not be won with a smile, we are going to give them what they have asked for—a straight-from-the-shoulder talk. There has been enough of seeking friendship. You still want to be friends, but you also want the money.

The appeal of the third letter is from the angle of get-on-the-inside-and-look-out, or put-yourself-in-our-place-and-judge. It deals with the sacredness of a business contract. It appeals to a man's pride and sense of fair dealing.

The third letter drops the story idea and substitutes argument. It argues the Golden rule—treat us as you would want us to treat you. There is no threat, you will notice. It is too early for that. It takes time to move from smiles to threats. There is a slight suggestion of threat in the question, "wouldn't you go after it with all the power you could use?" This has just enough of suggestion in it to stir the imagination of the debtor. He is left to out for himself, which often is one of the most effective ways of getting him to do the thing you want done.

By this time a debtor should appreciate that the writer is his friend; that he has been as easy and obliging as he could; but that in order to stay in business it is just as important to collect for goods sold and work done as it is to make sales and secure plumbing and heating contracts.

This series is the result of many writings and many experiences, and was finally gotten into its present form by Louis Victor Eytinge. It won for him the Making-Letters-Pay Cup at St. Louis in 1917. Contributors to the series include a foundry supply manufacturer in Michigan, a general merchandiser in Pennsylvania, a Missouri hardware man, a Utah clothier, an Ohio shoe dealer, and men in almost every line of business.

Originally the series was sold by Mr. Eytinge. But a few months ago he released the letters from all copyright restrictions and they can now be used by anybody anywhere.

The foregoing explanation is made in answer to inquirers who appreciate the value of the letters, but wondered if any restrictions were placed upon them.

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The Gem City Plumbing Co., 716 Main Street, Quincy, Ill., has been awarded the plumbing contract on the $140,000, three-story community high school building which is to be erected in Winchester, Ill.

## Third Letter Grows Firm in Tone and Insists Upon the Payment of the Account

Name in Full,
Address
Dear Mr. Blank:

Do you remember the story of King Midas? You know he was said to have the magic touch---that everything he touched turned to gold.

Now, if we had the touch of Midas, we'd not write you this letter. We would not be insisting on payment of the amount you are owing us, $_____.

A contract is a contract. If we give our word to the bank to pay, we have to be right there with money to meet our obligation. If we are not, the bank uses the law on us. All the business of the world would go to smash if we couldn't depend on the sacredness of a commercial agreement. And, in order that we may make our payments as WE agree, we expect you to pay us the money due us. That's fair, is it not?

Frankly, if some one owed you the money you owe us, for as long a time, and you needed it just as we do---wouldn't you go after it with all the power you could use? To be sure you would. Then please treat us as fairly as you would expect to be treated. All we ask is a square deal.

We will be looking for your prompt remittance of $_____. Don't disappoint us again.

Earnestly yours,

_____

# QUESTIONS & ANSWERS

**This department is a clearing house for ideas and is open to every reader of "Domestic Engineering." Problems sent in are replied to at the earliest possible moment by "Domestic Engineering," and this department can be made more valuable if readers themselves will help the man who needs assistance. Read the questions and answers. If you have had similar problems, or know from experience how the faults can be remedied, do not hesitate to send in your comment or criticism. It will be some satisfaction to you to know that you have helped a fellow craftman and a pleasure for us to pass on the data. "Every man owes some of his time to the upbuilding of the profession to which he belongs."**

## NOVEL SCHEME TO HEAT WATER FOR SHOWERS TEMPORARILY.

Editor, "Domestic Engineering":—Fig. 1 is a sketch of a domestic hot water supply. Will it work? Water is being used only once in eight hours. With the drips shut off, what effect will this have on the water in the 300-gallon tank? There is a steam coil in the 300-gallon tank, but owing to the steam plant being shut down, this arrangement has been made to the best advantage of all concerned.

Montana. W. E.

No, the arrangement shown in Fig. 1 will not work satisfactorily. There can be no circulation between the heater in one

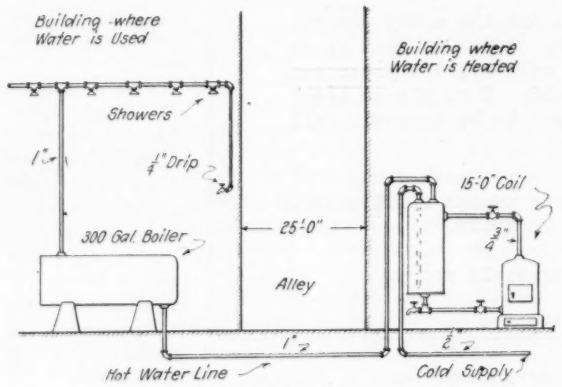


Fig. 1.

building and the 300-gallon storage boiler in the other building.

The best that can happen will be a gradual tempering of the water in the large boiler as water is being drawn from it. This will occur when hot water is being drawn into the bottom of the large boiler as showers are used or the drip open. It is quite evident, however, that large boiler will cool off when showers are not in use or drip is shut, and cannot be kept warm by the heater or 40-gallon boiler in the other building.

With the drip shut off the effect will be to cool the large boiler.

If you intend to depend on keeping the large boiler warm by having the drip running, this drip should be taken from bottom of 300-gallon tank—not from top as you show. Then cold water only will be wasted—not hot water.

If your drip arrangement is for temporary or emergency use, you may be able to "tide over" with it. But we advise covering the large boiler so as to hold the heat. You might also put a thermostat valve on the drip to close it automatically when tank is hot enough, although we hardly think you will have occasion to do this.

Why not install a tank heater, or gas heater—at the large tank in the usual way? That is the best thing to do in a case of this kind. Said new heater should be thermostatically controlled for shower work. Otherwise the tank temperature will be too variable and may scald the bathers.

## HEATING WATER FOR HOTEL BATHS ON THE COAL SAVING PLAN.

Editor, "Domestic Engineering":—Herewith is a sketch, Fig. 1, of a hot water system in a hotel showing location of furnace and range cooker, the range being on the second floor, over the heater. In view of the high price of coal, the hotel owner desires to utilize the lost heat of furnace to heat water in winter while furnace is fired up by connecting a special steam water heater. In summer, he wishes to use the lost heat of the range by connecting up the water back. Please describe in your valuable publication how to connect this up so as to make use of

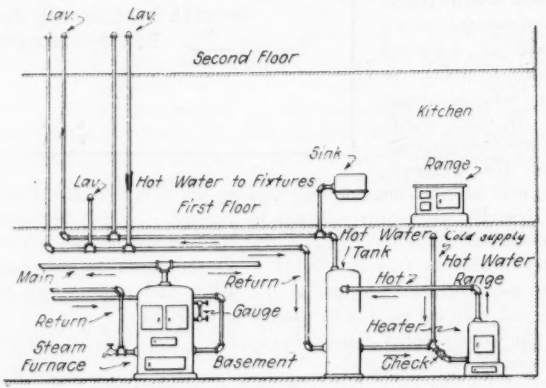


Fig. 1.

the lost heat and to supply about 600 gallons of hot water a day.

Iowa. E. W. H.

Probably the best arrangement you can install under the circumstances is substantially as shown in Fig. 2.

The steam water heaters may connect to boilers as shown. It would be well to be advised by the manufacturers of the special heater how many heaters, or what size of heater, you

should install. Give them the correct data regarding how much hot water will be required in one hour during maximum service. Also state height of top of range boiler above floor so that they may get an idea of the force of circulation available.

We advise raising the range boiler as high as possible to help circulation through these new heaters.

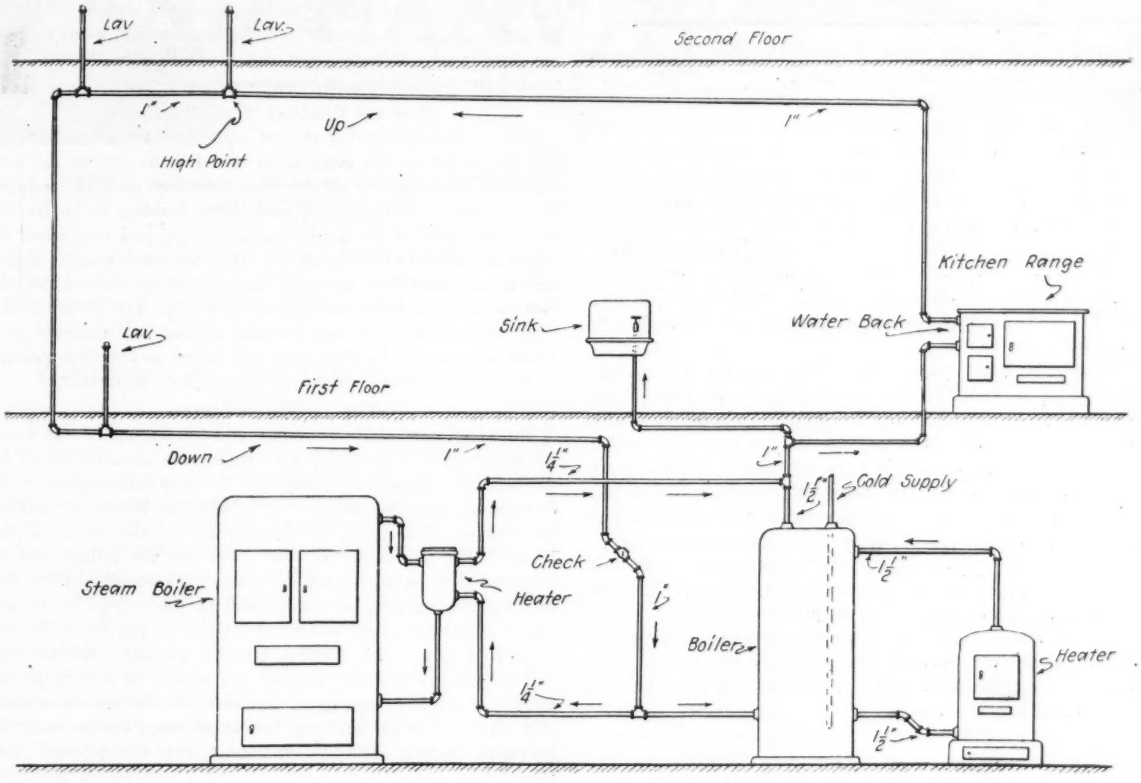


Fig. 2.

Regarding connections to kitchen range we believe the best plan is to hook up the water back on a new rising line as shown, making it part of the main circulating loop.

By this arrangement, either one, or all of the three heaters may be run at the same time.

The water back in this case is a booster to the circuit. We advise changing the cold supply, using an inner tube down through top of boiler in the usual way, just to prevent siphoning the boiler dangerously low should the cold water supply be shut off.

If there is a pressure regulator, or check valve on the cold water service pipe you should install a pressure relief valve on top of the tank. The check valve on return line should be of the kind that hangs open normally and closes only when a hot faucet is opened. To prevent this check from "clicking" or making a noise the flapper may be of 10 or 12 ounce cold rolled copper, cut out by hand and inserted as a substitute for the cast brass flapper. We think the sketch is otherwise quite clear, and we trust you will be successful with its installation. We feel sure that it will be satisfactory, if installed as cuts show and describe it.

## CIRCULATION THROUGH GAS HEATER TOO SLOW.

Editor, "Domestic Engineering":—I have recently installed a twenty-four gallon boiler and a twenty-two foot copper coil gas water heater. I also connected a 1¼-inch brass coil inside of warm air furnace, as shown in Fig. 1 herewith. Would you kindly advise me in your valuable journal how to remedy the matter? The gas water heater does not seem to heat properly. Furthermore, when filling the boiler it makes a gurgling sound. It takes about one and a half hours to heat the boiler three-fourths of the way down.

R. F. R. New Jersey.

According to this letter the furnace heating connections to boiler are satisfactory. Complaint only is with the gas heater. It does not heat the boiler quick enough. Also it makes a noise when the boiler is filling with hot water from gas heater.

This leads us to believe that the circulation through the gas heater is too slow for some reason. Possibly the heater is located too high, which weakens the circulating power. Perhaps there is too much resistance to the circulation either in the piping connections between heater and boiler, or in the heater itself.

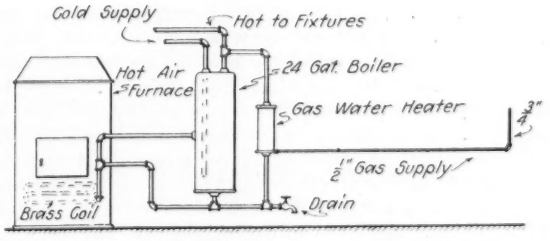


Fig. 1.

If the circulation is free and clear, the hot water from gas heater should enter boiler without noise, and the boiler should heat quickly all the way down.

We advise lowering the gas heater as much as possible, also blowing through it and its connections to be sure that the water ways are all clear.

### Mechanic's Lien Held Good Against Donated Building in Hands of Donee.

From the St. Louis Court of Appeals comes an interesting case wherein the Excelsior Press Brick Co. brought an action against Anthony Reinschmidt and others, to recover on an account and to establish the judgment as a mechanics' lien against a building erected for, and on the grounds of the Lindenwood Female College, located near St. Louis, Mo. The plantiff here charges that a certain quantity of brick was furnished to Reinschmidt, a sub-contractor under the Westlake Construction Co., the contract for the erection of the building having been made by James G. Butler with the construction company (209 S. W., 546).

The evidence produced tended to show that the account furnished and filed as a lien was a true and correct account and that the steps necessary to attach a lien as provided by statute had been taken. Upon the question of the authority of Mr. Butler and the capacity in which he was acting in making the contract, it appeared that the board of trustees of the college consented that Mr. Butler might erect a dormitory building to be used by the college at his own expense and cost; that he and the members of the board determined upon the location of the building, which was to belong to the college, and that thereafter the building described in plaintiff's lien was erected pursuant to this arrangement on premises owned by the defendant college and the building was presented by Butler to the college, was accepted by it and is now used and occupied by it as one of its school buildings.

There was a verdict against the sub-contractor by default, an instructed verdict in favor of James G. Butler, and a verdict establishing the lien against the other defendants. From this the Westlake Construction Co. and the Lindenwood Female College appealed.

#### The Law in the Case.

On the law involved in the case the court instructed the jury for the plaintiff that if they believed from the evidence that the college was the owner of the premises described in the lien, and that it authorized Butler, in his own name, to enter into a contract for the erection on the premises of the building described in the lien, for the use and benefit of the college; and that if they believed that Butler, as agent for and on behalf of that college, contracted with the defendant Westlake Construction Co., to erect the building, and that the Westlake Construction Co., contracted with plaintiff to build the walls and perform the brick work on the building, and that the plaintiff, under a contract with Reinschmidt, furnished the brick mentioned and described in the account, and that the brick actually entered into the construction of the building, and that they were furnished at the times mentioned in the account, and on the faith and credit of the building, and that the prices charged in the account were reasonable, and that plaintiff had complied with the provisions of the Mechanics' Lien Law necessary to entitle it to a lien, the plaintiff was entitled to a mechanic's lien upon the premises and building described for such sum, if any, as the jury might find from the evidence is due plaintiff from defendant, Reinschmidt, on account of the brick so furnished by it and which actually entered into the construction of the building at the reasonable value therof, not exceeding the amount claimed in the petition.

Further the court told the jury that if they found from the evidence that the defendant college expressly consented that the defendant Butler might erect the building on premises owned by the college, and that it was understood and agreed between the parties that the building so erected was to be owned and used by the college as one of its buildings, and that the contract made by defendant Butler with defendant Westlake Construction Co. was made with Butler as the agent of, and for the benefit and use of, the college, the jury should return a verdict in favor of plaintiff establishing its lien, even though the jury might believe from the evidence that Butler contracted for the building at his own cost and expense.

#### How the Contract Was Obtained.

There was evidence that the sub-contractor knew the building was to be put on the grounds of and for the use of the college. A representative of the brick company, plaintiff, testified that he had heard that there was a new building to be erected on the grounds of the Lindenwood College, and that when he found out who the contractor for the brick work was, he called him up and sold him the brick in question at prices specified, that he knew that the building to be erected and in which the brick were to be used was for that college, and that the proposed site for the building was mentioned in the arrangement he had with the sub-contractors as the place of delivery.

#### The Court's Holdings.

The court said this knowledge and furnishing of the brick on the ground was sufficient to show that plaintiff relied on the lien when he sold the material. But the real question to be determined, said the court, is as to whether Butler, in making the contract, was acting for himself or for the owner of the ground. On this point the court held that the college was an undisclosed principal. Said the court, undoubtedly Butler was erecting this building on the ground of the college by its authority and permission, and while he was to pay for it he was to turn it over when completed to the college. He did that and the college had the use and the benefit of it, and at the time of trial was occupying it. Butler never claimed any ownership whatever in the building, but at all times recognized it as belonging to the college. Judgment for the plaintiff was affirmed.

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### A Survey on the Use of Gas, Gas Water Heaters, Etc.

A survey completed by the American Gas Association reveals the magnitude to which the gas service of the nation has grown. Some interesting statistics recently given out by that organization are:

Gas furnishes the cooking heat, and in many cases illumination, in the homes of over 49,000,000 citizens.

Communities served with gas number 4,600 and meters 8,580,000, the gas mains totaling 68,300 miles.

To make the gas consumed by households and industry last year required 8,500,000 tons of bituminous coal, 2,000,000 tons of anthracite coal, 1,500,000 tons of coke, and 960,000,000 gallons of oil.

There are now 7,000,000 gas burning cooking appliances in American homes, gas water heaters number approximately 1,500,000 and gas heaters nearly 1,000,000.

Hotels, clubs, restaurants and institutions using gas for all cooking number 71,490, while those using it in part number 13,776.

The tremendous use of gas for industrial purposes is seen in the fact that 25 per cent of the nation's consumption is now by manufacturing concerns, it being used in over 1,200 different processes.

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Coraopolis, Pa.—The C. C. Stuart Co., State Avenue and Mill Street, has purchased the plumbing and heating business of H. M. Bentz in this city and has consolidated it with its own business. Mr. Bentz is now located at Lakeland, Fla.

# AMONG THE WHOLESALERS AND MANUFACTURERS

### EASTERN SUPPLY ASSOCIATION'S ANNUAL MEETING.

The Eastern Supply Association will hold its annual meeting at Hotel Astor, New York City, on Wednesday, October 12th, according to the official call issued by Secretary Frank S. Hanley, of New York City.

### COMPANIES RECENTLY INCORPORATED.

The W. H. Schroff Fuel Oil Burner Co., Chicago, has been incorporated to manufacture small industrial and residential oil burners. The incorporators are C. V. Kellogg, Fred B. Fiz and William H. Schroff.

Breeze & Bettle, Chicago, have incorporated a company under that name to manufacture small boilers for household use, particularly adapted to oil burning. The capital stock of the company is put at $20,000. The boilers are now being manufactured by the National Machine Co. Griscom Bettle is president, and J. A. Murray is secretary.

Heater & Freezers, Inc., Wilmington, Del., is the name of a new concern incorporated in that city with a capital stock of $40,000, to manufacture heating equipment, etc. It is represented by the Corporation Trust Co. of America, Du Pont Building.

The Holt Power-Light Co., Wilmington, Del., has been incorporated with a capital of $2,000,000, to manufacture isolated electric lighting plants. The Delaware Registration Trust Co., 900 Market Street, represents the company.

The Sullivan Boiler & Mfg. Co., Sullivan, Ind., has been incorporated with a capital of $50,000, to manufacture boilers and heating specialties. The incorporators are J. W. Lindley, C. H. Bedwell and W. T. Mellott.

The Cataract Mfg. Co., Milwaukee, Wis., has been organized and incorporated with a capital of $25,000 to manufacture pumps, gasoline engines and other hydraulic equipment for farms and domestic purposes. The incorporators are John F. Dunphy, Lee W. Slensby, attorney, and Frank R. Lueck, formerly second vice-president of the Fabricated Ship Corporation, of Milwaukee.

The National Generator Co., New York City, has been incorporated with a capital stock of $500,000, to manufacture steam generating equipment, etc. The company was incorporated by W. W. Harris, W. C. Swift and S. Null, and is represented by W. J. Bloch, 317 East Eighteenth Street.

### NEW ADDITIONS AND IMPROVEMENTS.

The W. J. Hyland Mfg. Co., 151 Dwight Street, Springfield, Mass., has had plans prepared, and is taking bids on the construction of a three-story plant building on Liberty Street in that city, to be used for the manufacture of heating equipment. The building will be 47x85 ft.

The Western Pipe & Steel Co., 444 Market Street, San Francisco, Cal., is to occupy its new plant building in South San Francisco at an early date. The new plant will comprise the former works of the Shaw-Batcher Shipbuilding Co. When the plant is opened, it is expected that employment will be given to about 500 workmen.

The Republic Boiler & Radiator Co., Woodbury, Baltimore, Md., is considering expansions and the installation of additional manufacturing equipment to cost about $1,000,000. E. L. Stock is president of the company.

The Columbus Steel & Tube Co., recently organized, is equipping a plant building in Columbus, Ind., for the manufacture of tubular goods. The principal stockholders of the company are Q. G. Noblitt, Frank H. Sparks and Albert G. Redmond.

The Pacific Sanitary Mfg. Co., Richmond, Cal., has awarded the contract to construct a one-story addition to its plant building at Fifth and Hensley Streets.

The Keystone Supply & Mfg. Co., Philadelphia, Pa., has had plans prepared and has awarded the contract to construct a one and two-story plant building on East Fourth Street, Bethlehem, Pa. The new structure will be 300x400 ft., and will cost approximately $175,000.

### STARTS MANUFACTURE OF PLUMBERS' BRASS GOODS.

Alfred L. Rudolph, has begun the manufacture of plumbers' brass goods, at 139 North Third Street, Philadelphia, Pa.

### APPOINTS CANADIAN DISTRIBUTORS.

The Hercules Chemical Co., Inc., New York City, has appointed W. H. Cunningham & Hill, Ltd., Toronto, Ont., distributors of the company's product in Canada.

### TO MANUFACTURE STEAM SPECIALTIES.

The James Robertson Mfg. Co., Richmond, Va., which was recently organized with a capital of $350,000, has made arrangement for the operation of a plant in that city to manufacture pipe and steam specialties, gas fitters' supplies, etc. Louis Miller is manager of the new enterprise.

### TO OPEN NEW WAREHOUSES IN CANADA.

Crane, Ltd., Toronto, Ont., will soon open two large warehouses in Ontario. One of these will soon be opened in Hamilton. The other will be opened about the first of the year in London. Both warehouses will operate in conjunction with branch offices which will cover their respective territories.

### NOW IN NEW LOCATIONS.

The A. M. Byers Co., of Pittsburgh, Pa., has moved its office in Philadelphia from 530 Widener Building to 1711 Morris Building.

The Josam Manufacturing Co., of Michigan City, Ind., has moved its branch in Cleveland, O., to 1104 Prospect Avenue.

## TO ORGANIZE SALESMEN'S LUNCHEON CLUB.

Manufacturers' sales representatives who are located in or near the Grand Central Terminal, New York City, are planning the organization of a luncheon club, which will meet every noon hour at the St. Cloud Restaurant, Forty-second Street and Madison Avenue, where a special room has been reserved.

## CHANGES IN PERSONNEL OF HOFFMAN HEATER CO.

Several changes in the personnel of the Hoffman Heater Co., Lorain, O., have been announced. G. R. Cook, who has been associated with the Ruud Mfg. Co., Pittsburgh, Pa., for several years, has been appointed manager of the new branch office being organized in Philadelphia, Pa. H. T. Carkeek, who has been the company's agent in this territory for some time, will hereafter devote his time to handling the products of James B. Clow & Sons, Chicago. Mr. Carkeek will, however, be located in the Philadelphia office, occupying half of the display space. The Philadelphia office of the company will be located at 824 Walnut Street, the heart of Philadelphia's theater district, which affords an excellent location for the company's display of water heaters.

## NATIONAL CONFERENCE OF STATE MANUFACTURERS' ASSOCIATION URGES PASSAGE OF TAX BILL.

Three vital subjects of pending congressional legislation, namely taxes, tariff and railroad regulation, occupied most of the time of the representatives of eleven state manufacturers' associations and scores of manufacturing industries at the National Conference of State Manufacturers' Associations held in Chicago last week. A composite view on these subjects was given at the sessions, the keynote of which was a return to the sane and tried theories of business and business regulation by which the country has prospered in the past.

Lower freight rates were urged by the conference, and a resolution passed at the close of the session demanded that the railroads be relieved of the burden of excessive payrolls, that the Adamson act and corollary acts be repealed and that the United States Railroad Labor Board be abolished together with all governmental machinery which operates to the regulation of railroad wages and labor conditions. No resolution as to tariff was passed, but the conference after some discussion appeared to accept the general outline of the bill now before Congress. Numerous discussions on the Fordney bill were heard, with some of the conferees expressing themselves openminedly on the subject. No definite action on the bill was taken, however, but some expressed a willingness to give it a trial.

The following resolutions were passed:

"Whereas, we fully realize the difficulty of harmonizing the different views in relation to taxation, and

"Whreas, the pending tax legislation is deferring action on more important legislation, now, therefore, be it

"Resolved, that this convention called and held under the auspices of the National Conference of State Manufacturers' Associations recommends to Congress the speedy enactment of appropriate tax legislation sufficient to provide the necessary revenue of government economically administered.

"Whereas, the appropriation of money by the United States as subsidies or "aids" to state and local governments results in confusion of national and local finances and encourages waste and extravagance; and

"Whereas, two measures now pending in Congress—the Smith-Towner bill for a so-called federal department of education, and the Sheppard-Towner maternity bill—would together nearly double the present $113,000,000 of existing federal "aids" for roads, agricultural promotion and other purposes; would increase rapidly in amount and would pave the way for more and more federal appropriations to state and local governments; and

"Whereas, the further extension of the policy will make the peace-time tax burdens of the future greater than our taxes for war purposes, therefore, be it

"Resolved, that we oppose the creation by Congress of any new federal "aids," grants or subsidies toward the expenses of state activities; and be it further

"Resolved, that copies of this resolution be forwarded to President Harding, to the president of the Senate and the speaker of the House of Representatives of the United States, and to each of the United States senators.

The transportation committee offered the following resolution, which was adopted:

"Resolved, that it is the sense of this meeting that the industrial, commercial and agricultural interests of this country require a decided reduction in freight rates as a necessary step towards the revival of business, and we also recognize that it is necessary in order to bring about these reductions in freight rates that the railroads be relieved of the necessity of paying a higher wage rate than prevails generally in the communities through which they pass and are paid by private corporations doing similar work. We also go on record as favoring the repeal of the Adamson law and the modification of the Transportation Act of 1920, to do away with the United States Railroad Labor Board and the power of the government to fix wages and labor conditions such as the so-called national agreements in connection with the railroads of the United States."

**Howard Coonley,** president of the Walworth Manufacturing Co., of Boston, has been selected by Governor Cox of Massachusetts as chairman of the Massachusetts Committee to Promote Employment.

**James A. Campbell,** president of the Youngstown Sheet & Tube Co., Youngstown, O., is among those who have accepted invitations during the past week to participate in the Unemployment Conference which opened in Washington early this week.

**Carl Dietz,** vice-president and general manager of the Norton Company, of Worcester, Mass., has been elected president and general manager of the Bridgeport Brass Co., of Bridgeport, Conn., to succeed F. J. Kingsbury, who has just resigned, but will continue as a member of the board of directors of the company.

**Francis J. Baker,** president of the George H. Tay Co., of San Francisco, Calif., was in Chicago this week on his way to Pittsburgh and New York and other eastern cities. He expects to be away from home about one month and will make the return trip via Seattle and Portland.

**Frank Sutcliffe,** president of the John Wood Mfg. Co., Conshohocken, Pa., and **Victor Mauk,** chairman of the Board of Directors of that company, have recently returned from an extended business trip which took them through New York state and Canada, and to the Pacific Coast, where the principal cities were visited.

**Benjamin Nelson,** who has been associated with the Atmospheric Conditioning Corporation, Chicago, for some time, has joined the sales engineering department of the Chicago office of the Kewanee Boiler Co., Kewanee, Ill.

**Wm. C. Groeniger,** of Columbus, O., president of the American Society of Sanitary Engineering, has been appointed a member of Secretary Hoover's Advisory Committee on Plumbing.

# TRADE LITERATURE

**Bathroom Accessories.**

"Samsonchina" is the title of a five-page folder just issued by the S. D. Baker Mfg. Co., New York City, which describes and profusely illustrates china bathroom accessories, such as towel bars, soap-dishes, tumbler holders, etc.

**Flushvalve Booklet.**

The McLaughlin Flushvalve Co. Inc., Louisville, Ky., has just issued a twelve-page booklet describing its products.

**Booklet on Temparature Regulation.**

The Gold Car Heating & Lighting Co., Brooklyn, N. Y., has issued a thirty-two page booklet on its temperature regulating systems. Descriptions and illustrations of the product are given, as well as several layouts for house installations.

**Heating Specialty Folder.**

The Trane Co., LaCrosse, Wis., has just issued a five-fold folder, making twelve pages, describing and illustrating the company's heating specialties. When unfolded completely, the folder is twenty-three inches long, and when folded back into its original five-folds, it makes a neat envelope stuffer.

**Booklet on Air Washing Fans.**

The American Blower Co., Detroit, Mich., has issued a twelve-page booklet illustrating and describing air washing and cooling fans. The front cover design is a country and mountain scene and a photograph of a fan, set on a back ground of blue sky, indicative of pure air. The booklet is devoted to photographs and descriptions of installations etc.

**Water Heater Broadside.**

A large broadside folder, measuring 25x18 inches, has just been issued by the Excelso Specialty Works, Buffalo, N. Y. The broadside describes and illustrates the company's water heater, which utilizes the steam or hot water in the boiler to heat the water for domestic purposes. The folder has been carefully prepared, and in keeping with the use of instantaneous hot water, a "Bath a Day" sticker is used as a seal to keep the folder closed.

SHOP EFFICIENCY BIGGER BUSINESS **NEW** SELLING OPPORTUNITIES REPLACEMENT WORK

# EQUIPMENT AND IMPROVEMENTS

**New Flush Valve for Urinals.**

A new flushing valve for urinals has just been devised, which is operated entirely by the heat units from the urine as it passes through the waste outlet, and can be used on any type stall. Less than one-half pint of discharge will operate the valve, but more than this amount will quicken its action. The flushing apparatus consists of three sections, an upper section, or thermostat with strainer attached, which is screwed into the body of the apparatus; a middle section, or sleeve, which unites the body with the crockery or stall waste outlet; a lower section, or body, which has a 2½-inch waste outlet at the back, and a ½-inch water inlet and a ½-inch water outlet to the top of the urinal, from which point the flush is directed.

# Twenty Years Ago in "Domestic Engineering"

**Saturday, October 5, 1901.**

**James B. Clow & Sons** have borrowed $220,000, secured by a deed of trust for the fee simple in the ground at the northwest corner of Franklin and Harrison Streets, Chicago. The loan is made to construct an eight-story building on the site.

**Movement for Half Holiday**—It is said that there is a movement on foot among the journeymen of New York to get a half holiday on Saturdays with an increase in wages.

**Master Plumbers** of North Hudson, New Jersey, have organized. Jacob Lang has been elected president of the organization; H. L. Sebeske, secretary; R. Reimenscheider, treasurer; J. J. Cleary, sergeant-at-arms.

**Spanish Steel Trust**—Spain has gone into the trust business. She has organized all of her steel companies into one, with a capital of $15,000,000. The billion dollar steel combination in this country will remain in business, it is said, regardless of Spain's action.

**Claim Biggest Bath Tub Factory**—The Day Metallic Manufacturing Company has just completed a new addition to its factory in Detroit, which, it is claimed, gives it the largest capacity for manufacturing bath tubs of any firm in America. The Day Company's capacity now is 140 tubs per day.

**Will the Time Ever Come?**—Will America ever see the woman journeyman plumber? This question was asked recently by a well known New Yorker who has just returned from abroad.

**For the Protection of the Trade**—The Master Plumbers' Association has secured the signatures of nearly all the manufacturers and jobbers of heaters, ranges, steam and hot water heating apparatus in Philadelphia, to an agreement to not sell to consumers, builders, architects or others at the same prices charged the plumber, but to amply protect the trade in the handling of these goods. The agreement has been very cheerfully endorsed by most of the manufacturers and dealers, and it is expected that the list of signatures will be made complete.

**Will Draw Plans for Nobility**—E. C. Rauch, one of the leading plumbers of Harrisburg, Pa., has been awarded the contract to draw the plans and specifications for a new palace to be erected by an Austrian Count in Vienna. Master plumbers throughout America were competing for the contract.

**To See the Dead President**—A party of about forty employes of Cuyler & Mohler, of Baltimore, made a trip to Washington, September 18, in a special car, to attend the state funeral of the late President McKinley.

**Hard Pressed**—The Roe Stephens Manufacturing Company, Detroit, whose specialty is high grade valves for steam, water, air and gas, has had such a run of business that it has been impossible for them to make up goods for stock, and in consequence they have had to turn out work as ordered—a slow process.

**British vs. American Bath Tubs**—(From "Australian Hardware and Machinery.") In Sydney and suburbs the American porcelain enameled iron bath is fast ousting the British, for the following reasons: (1) It is cheaper; (2) the shape is liked better, being neat in design and compact; (3) the quality seems A1, and the finish is superior. It might not be such a serviceable article as the English production, and there mightn't be much room for water if a fat man got in. Nevertheless, people will have the American design, and it only, and the British manufacturer does not get any of the trade.

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You'll find that it pay
upon getting FRETZ
from one-eighth inch
sold by most jobbers.

**Fretz Nipples are made to meet a set standard of real quality and not a condition of price!**

**S. S. FR**
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# retz

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**FRETZ Jr. & CO.**
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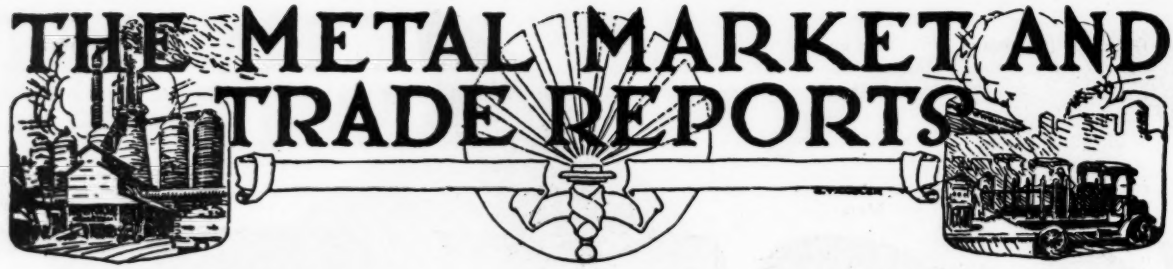



### Steel and Iron.

Readjustment in finished steel prices is getting nearer the goal as weeks pass and the market assumes its old time confidence. Last week witnessed the sale of wire and nails on the advanced basis of $2.90 for nails per base keg and $2.60 for plain wire. One of the leading independent makers took on approximately five cars of nails at this advanced basis. All wire plants in the Pittsburgh district are busy and are getting better specifications on contracts than for months past.

The sheet market under the new base of three cents for black and four for blue, appears to be responding more freely, and buying has assumed a much broader aspect. However, reports of sales of sheets under the new basis are not lacking. Especially is this the case with blue annealed and black. Makers on the other hand look for a further advance in sheets in the near future. There is an absence of surplus stocks in this finished line that would interfere with the normal action of the market in tin plate. Production has swung into a more normal rate of output than has been possible for months past. This has stiffened the market for sheet bars and caused them to sell at the close of the week at $32 in small lots. No maker of steel sheets or tin plate appears willing to book into 1922 on the present prices.

Merchant bar trading is tending upward, but very slowly. It has been a disappointing feature of the general recovery movement. It has kept bar quotations to 1.60 cents minimum until last week when some trading was done at 1.70 cents. Plates at 1.65 cents to 1.75 cents appear to be available, and shapes at 1.70 cents really are holding a dollar differential over plates, while makers express the opinion that normal demand will become general in January. But bolts and rivets have taken a decisive attitude toward firmer prices and demand has become more satisfactory.

Railroads have been good buyers during the past week, and production which has lagged back to under 50 per cent is now creeping up beyond that rate. A good many buyers of pipe are in the market, carefully feeling out prices. A little more life is found in oil country goods as oil advances and operations in the fields respond to better demand. Pipe mills are operating on a better basis as a whole and generally prices are firmer. Skelp tonnage for export has been the chief feature of that market of late, approximately 15,000 tons being involved in several transactions. Domestic buying has not shown much change. Prices for skelp, while ranging from 1.65 cents to 1.75 cents, can be shaded down to 1.60 cents on desirable business.

The New York market for pig iron slowed down last week but the undertone is none the less firm and September is expected to have shown an advantage over August. The principal demand just now has come from manufacturers of stoves and radiators, though requirements have been pretty evenly divided between the several consuming industries. Jobbing foundries have not shown much, if any, improvement, though demand from this source has continued fairly steady. The orders received last week were of the usual small lot variety, with a few scattered inquiries for 100 tons and over. The outside demand, however, has tended to strengthen the market and prices are holding up, with a tendency to advance. Eastern Pennsylvania has been supplying the bulk of New York requirements on the basis of $20 for No. 2 plain, furnace. Good business is reported from northern New York. Some 20,000 to 25,000 tons of foundry grades are reported to have been quietly placed at Buffalo, and one Susquehanna furnace has been added to the list, which operates to hold the market firm. Inquiries in the Chicago market last week were for 1,000 tons foundry, 1,000 tons malleable, 800 tons of charcoal and about 400 tons of Bessemer ferro-silicon, approximately 3,600 tons of iron of all grades. Two inquiries in Philadelphia aggregate 10,000 tons, and Pittsburgh reported one order of 4,000 tons.

With the movement in iron there has been an increase in the production in coke. The better demand has stiffened the market, though the price is nominally unchanged at $3.25 to $3.75 for furnace and $4.25 to $4.50 for foundry grades. Prices for pig iron are quoted as follows:

No. 2 Pittsburgh, $22.96@23.96; No. 2X Philadelphia, $21.34@22.54; No. 2 Southern Birmingham, $19.00@20.00; No. 2 Chicago, $22.00; Basic Valley, furnace, $19.25@19.75; Bessemer, Pittsburgh, $21.96@22.46.

### Copper.

Last week's trading in copper was exceptionally active. Several round lot sales to domestic consumers went through and there was considerably more inquiry. The result was shown in a general stiffening of the market. Copper rose little by little each day. Early in the week there was more or less cheap metal for sale which was freely offered at 12¼ cents for nearby shipment. This quickly disappeared and the price advanced to 12⅜ cents for October and finally closed with nothing to be had under 12½ cents for this month and 12⅝ cents asked for November. Export demand has been quiet with Germany out of the market for the time being. Foreign shipments, however, have been heavy and aggregated 14,481 tons from the Port of New York alone. Domestic demand which had been dormant for weeks, however, has increased and dealers are encouraged with the present outlook.

### Tin.

Consuming interest in tin continued light last week and the market in sympathy with London was steady on the whole, with but slight daily fluctuations which left the local selling price for Straits at the close of the week at 26¾ cents. The market was firm at the quotations. Arrivals during September were 2,495 tons at Atlantic ports and 105 tons at Pacific ports. Tin afloat is placed at 3,725 tons. Arrivals of Bolivian ore during September were about 600 tons.

### Lead.

Lead was at least relatively active all of last week, though producers made no attempt to force the market, which closed firm with an upward tendency. The prices are unchanged. The official price of the leading producer is still 4.70 cents for spot and East St. Louis. The outsiders, however, have been doing business at 4.75 cents New York and offer Western shipment at 4.50 cents.

### Zinc.

Demand, principally from the galvanizing trade, has revived the long dormant interest in zinc and the market is firm, with an upward tendency, at 4.50 to 4.55 cents East St. Louis. For New York delivery the Metal Exchange quoted 4.85 cents on Friday with basis East St. Louis at 4.50 cents for spot, October and November, against an asking price for the same options at 4.55 cents.

### Other Metals.

Quotations on other metals in New York are as follows:

Aluminum Powder .....60 to 65 cents per lb.
Aluminum (in 50-ton lots) 99% and purer....25 cents per lb.
Antimony (Chinese and Japanese).....4.55 cens per lb.

### New York Old Metal Market.

The following prices are current for old metals:

| | Buying | Selling |
|---|---|---|
| Copper, heavy | 10 to 10¼ cents | 11¼ cents |
| Copper, light | 8 to 8¼ cents | 9¼ cents |
| Brass, heavy | 4½ to 4¾ cents | 5¾ cents |
| Brass, light | 3¾ to 4 cents | 5 cents |
| Lead, heavy | 4 to 4¼ cents | 5¼ cents |
| Tea lead | 2½ to 2¾ cents | 3¾ cents |
| Zinc | 2 to 2¼ cents | 3 cents |

### Chicago Old Metal Market.

Chicago wholesale dealers' prices are nominally as follows:

| | Buying | Selling |
|---|---|---|
| Heavy yellow brass | 5 to 5¼ cents | 6¼ cents |
| Brass, light | 4 to 4¼ cents | 5 cents |
| Red brass | 7¼ to 7½ cents | 8½ cents |
| Copper, heavy | 8¼ to 8½ cents | 9½ cents |
| Copper, light | 5½ to 6 cents | 7 cents |
| Lead, heavy | 3½ to 3¾ cents | 4¾ cents |
| Tea lead | 2 to 2¼ cents | 3 cents |
| Zinc | 2½ to 2¾ cents | 3¾ cents |

### Range Boilers Advance in Price.

Chicago, October 5.—With the advance this week of black and galvanized sheets, one range boiler manufacturer, thus far, has advanced the price of range boilers of all sizes approximately 10 per cent. As the advance in sheets affect all manufacturers of range boilers, it is expected that the advance will ultimately become general.

Boilers, radiation, pipe, fittings and enameled ware have not witnessed any further revisions either upward or downward. The market on each of these products is holding its own, and in some instances continues strong, with business coming in regularly. The pipe market is rather slow, but the future holds out more promises. Business in plumbing supplies has been showing a steady trend upward, while heating equipment is still witnessing the general spurt taken on about a month ago.

## MARKET CONDITIONS IN NEW YORK CITY.

New York, October 4.—With the trough of the depression in business apparently ended, and several trades feeling their way toward lifting the market for their goods, plumbing supplies here seem to have touched pretty close to rock bottom. New building seems to have slacked off a little, probably one factor in this being the constant prognostications of a hard winter, which make builders fear the possibilities of frost in foundation work and unsatisfactory results generally should they fail to get "under cover" before the anticipated blizzards come along.

The return of all-summer vacationers has quickened the demand for repairs and replacements in anticipation of cold weather. Finishing of buildings now in course of construction continues in the Bronx and on Long Island. In addition, there is considerable remodeling of old dwellings in the Greenwich Village section, where the lower grade of tenant is gradually being forced out due to the popularity of this section with artists and writers. Almost in every case where such renovations are in progress, new plumbing is being installed, although price quotations, according to some building contractors, still conspire to restrict the volume of business that might be done in this line in this particular section.

Mr. Mendelsohn, of Dimock & Fink Co., declares: "There is still lots of building activity in the Bronx and we look for things to continue moving along well until Christmas. With a general renewal of demand, it looks as if prices would stiffen and in some cases go up." No large quantity business is reported by this concern, and the impression seems common that the steamfitting and plumbing trades generally are buying only for specific contracts and to be "covered" where stocks threaten to prove weak in the case of emergency business.

E. Smolka, of the Smolka Plumbing Supply Co., reports: "We are very busy, and it appears as though people are bound to prepare for winter, despite the warm weather which might have made them hold off somewhat."

The iron pipe situation reveals little consumption just now in most quarters where inqury would normally be found. The demand for soil pipe and its accessories is reported as increasing in the outlying districts, however, and part of this activity may no doubt be traced to the anxiety of landlords to minimize the possible number of complaints they may have from good tenants this winter. The gradual wearing down of the paying power of all classes has not been reflected to the extent it might in rent reductions, in fact, very little, and the local political situation is such that a tenant would have little trouble in jumping a lease where gross carelessness in sanitary precautions might be imputed to the property owner. Landlords are not doing a tremendous amount of new installation work, for it looks as though the winter would hit their high-rent program very hard. They are doing their best to keep satisfied tenants, however, who pay regularly, and plenty of new faucets, range boilers and soil pipe repairs are adding considerable to the total supply business which might normally be expected.

## BUYER'S WEEK AND THE MASTER PLUMBER.

### Ambitious Plan of New York Retail Merchants to Boost Sales Offers Opportunity to Alert Plumbing and Heating Contractors.

Retail merchants of New York City are planning to bring about a "National Buyers' Week," as a means of stimulating business and starting the movement of goods from the factories to the consumer. The idea is to have a special week set aside by official proclamation during which the consumer would be urged to come into the market with both feet and, by his liberal purchases of all kinds of merchandise, set the wheels of commerce revolving to an extent which would help considerably to solve the unemployment problem. In other words, "Buyer's Week" would be similar to the "meatless days", "gasless Sundays", and other similar emergency measures in vogue during the war, in which the co-operation of the public was obtained by an appeal to its patriotism, only in this case, of course, the principal would be reversed, and people urge to consume instead of to conserve.

The plan was suggested at a recent meeting of representative business men of the city, called by Mayor Hylan to the City Hall to discuss ways and means of solving the unem-

ployment problem. Said Franklin Simon, head of one of New York's biggest department stores, who presided at the conference, and is given credit for the conception of the plan: "If we can sell $1,000,000 worth of merchandise during a 'Buyer's Week' set aside by official proclamation, we can provide work for all the unemployed men and women in New York City."

Since the meeting, merchants all over the United States have gone on record to the effect that they are heartily in favor of the plan and ready to co-operate. Thus far, however, no expression of a desire to participate in the movement has come from the plumbing and heating trades. Yet master plumbers are merchants, and the opportunities to cash in on "Buyer's Week" would seem to be as fruitful for them as for business men in other lines.

If the consumer, by official proclamation and intensive newspaper publicity appealing to his patriotism or public spirit, can be persuaded to help solve the unemployment problem by freely buying of the department store's merchandise, why wouldn't he also be ripe for the suggestion that during "Buyer's Week" he spend part of his money on the installation of that shower bath he has long had in mind, or a new heating plant, or a kitchen sink, an extra radiator, new faucets in the bathroom or kitchen, etc.? So long as he has made up his mind to help the good cause by liberal buying to the full limit of his spending capacity, he might as well let at least part of his purchasing be in the direction of needed improvements in his home.

It has not yet been definitely decided that the idea of a "Buyer's Week" will be carried out. Some opposition has developed to the plan, although a large number of representative merchants are in favor of it, and confident that it would be a splendid stimulus for business. If it does go through, however, progressive master plumbers might find it very much to their advantage to give careful consideration to its possibilities as applied to their own business. By means of newspaper advertising and circularizing campaigns it ought to be possible for the plumbing and heating contractor to get his share of the benefits of "Buyer's Week".

Imagine, for instance, the favorable reaction on the part of the consumer that might reasonably be expected from a circular letter sent out by a live wire local master plumber, and reading somewhat as follows:

"Dear Mr. Home-Owner:

"Of course you know that, by official proclamation, the second week in November has been set aside as 'Buyer's Week'. During that time every public-spirited citizen is expected to come to the rescue of the country's millions of unemployed by buying to his utmost.

"No doubt you are resolved to 'do your bit' to help start the wheels of industry revolving with a speed that will mean work for every jobless man and woman in the United States. But there is no reason why you should spend your money unwisely, even though you are filled with a desire to help in the good cause. Buy liberally, and to your utmost—but buy the things you need, rather than a lot of merchandise for which you have no conceivable use. You can, of course, follow that sensible policy and still conform fully to the spirit of 'Buyer's Week'.

"There is that new kitchen sink, for instance, which your good lady has been craving for some time. Make it a point to get it for her, during 'Buyer's Week'. She will appreciate your thoughtfulness, you can be sure.

"And how about that new shower bath you have been promising yourself, or the boy, for the past couple of years? 'Buyer's Week' presents a favorable opportunity to have it installed. You will be helping the good cause, and giving yourself and the other members of the family a real treat, at the same time.

"Perhaps your heating system needs overhauling or replacing. If you have made up your mind to draw some money out of the bank and spend it during 'Buyer's Week' to help the country's unemployed and bring American business back to normalcy, why not decide to do your spending in the direction of making your home comfortable?

"Possibly your spending capacity, at the present time, does not permit of your doing all that you would like to do to help along this worthy movement, but 'every little bit helps'. Even a new faucet in your kitchen sink or your bath room, would be a step in the right direction.

"Recent official statistics have shown that there is more unemployment in the metal trades than in any other of America's industries. There can't be any doubt, therefore, that a plumbing or heating installation made in your home during 'Buyer's Week' would be a worthy contribution to the good cause.

"And prices for this work are now down to rock-bottom levels. Why not let me call and talk it over?"

The above suggested circular letter could, of course, be improved on. It is merely offered as an indication of the lines along which the alert master plumber could get into this movement to stimulate buying, and get into it with both feet foremost.

The date of Buyer's Week stated in the above circular, it is well to point out, is also figurative. At the time this is written no specific date has been decided on by the merchants who are sponsoring the plan, although it is generally agreed that it would be most practicable to hold the event shortly after Election Day.

Aside from its possibilities of stimulating demand for plumbing and heating installations generally, "Buyer's Week" would seem to afford a particularly favorable opportunity to the master plumber to cash in on the "Bath-a-Day" campaign. Instead of making an apeal for general installation work, as suggested above, plumbing contractors might find it advantageous to concentrate on the single item of shower-bath or bath-tub installations. Propaganda for the daily bath habit could effectively be linked up with propaganda for "Buyers Week"—a combination that could be relied on to make a strong appeal to the home-owner, and would be likely to lead to a good many orders for installations.

**Robert H. Curry.**

Robert H. Curry, for twenty years engaged in the plumbing business at Melrose Highlands, Mass., and widely known among yachtsmen along the Atlantic Coast, died aboard his yacht at Marblehead, Mass., on Saturday evening, October 1st, while preparing for a week-end cruise. Physicians pronounced death due to a heart attack apparently brought on by over-exertion. Mr. Curry was a native of Nova Scotia and was 70 years old. In his boyhood he was on the water much of the time and during his later years he took advantage of every opportunity to enjoy his favorite pastime of yachting. In 1906 Mr. Curry designed and built the first triple-screw motor boat. He named the vessel the Yo Ho. He later sold the craft to New York parties, but during the war she reappeared in Boston Harbor as a scout cruiser, having been taken over by the Government. At one time Mr. Curry was commodore of the Chelsea Yacht Club. A widow and two sons survive. One son, Albert Curry, was in the plumbing business with his father at Melrose.

Exchanging Ideas is the Foundation of Progress

# What Associations Are Doing

Through United Effort the Individual Succeeds

**The Annual Outing of the Massachusetts North Shore Master Plumbers' Association.**

The reputation of the Massachusetts North Shore Association of Master Plumbers for not letting business interfere with pleasure was fully maintained at the annual outing held on September 28th at Centennial Grove, Essex, Mass. The day was devoted to pleasure and nothing was allowed to mar the pleasure. R. V. Worthen, president of the State Association, Albert Reardon, president of the Lynn Association, George E. Ryan, former state president, and other dignitaries were guests and were entitled to enjoy all of the features of the outing but were not permitted to do any speechmaking.

The company 60 strong left Town House square in Salem in automobiles about 10:30 a. m., for the short run to the grove. The street lights were lit when they wended their way homeward after a day long to be remembered. An overcast sky in the early morning gave President Bart Driscoll and Secretary James Trow some concern but not for long for the sun soon broke through and the weather man provided perfect conditions.

The sporting program consisted chiefly of the ball game between the Master Plumbers and the Salesmen. Like some of the foreign armies the teams were composed entirely of captains. The game had continued for some time when the call to dinner came and play was "temporarily" halted. After dinner anyone who suggested base ball would have been in serious danger of his life. The score was tied when time was called; it is immaterial, the players assert, what the figures were so long as nobody won.

An old-fashioned clambake was on the menu for dinner and was given strict attention with most satisfactory results. Two pairs of candlesticks, presented by Joseph A. Maynard, were given away at the dinner table. E. G. Kelly, of Peabody, and Ben Williams, of the H. B. Smith Co., were the lucky recipients.

After the clambake the members spent a quiet and restful afternoon under the trees or in the pavilion as their fancy dictated until approaching darkness caused them reluctantly to return home.

**Master Plumbers of St. Joseph, Mo., Hold Annual Outing.**

The annual outing of the St. Joseph, Mo., Association of Master Plumbers was held recently at Courtney's Grove on One Hundred and Two River, and all attending agreed that a better place could not have been chosen. The master plumbers, their families and friends, numbering about one hundred and twenty-five, arrived at the Grove at two o'clock in the afternoon, and with them was Mr. Green, secretary of the Kansas City Association and a delegation of twenty-eight from his city, and J. C. Greenberg, of The National Trade Extension Bureau.

Kansas City, in addition to bringing Mr. Greenberg with them, had among them a baseball team that administered defeat to the St. Joseph plumbers. The score was 10 to 5, but what the game lacked in skill was made up for in fun. The feature of the game was the fielding of C. L. Kennedy, president of the state association.

Other contests followed. Carl Smith, vice-president of the state association, won a prize for having the largest feet at the picnic. The St. Joe masters evened up things with Kansas City in the tug-of-war.

A chicken dinner was served at six o'clock. Sam Powers says that the ham was the most important part of the menu, but anyway there was plenty of both and other good things. After dinner there was a singing contest which displayed more talent than was expected in the party. The colored orchestra which played all through the day furnished the accompaniment for the singers. James C. Cunningham, Chas. Harrison, and Miss Marie Knight won prizes in this event.

The automobile drive back to town ended a day full of enjoyment for everyone who attended. The committee, which consisted of T. Donegan, chairman; Joseph Enright, Fred Harrison, Roy Jackson and Chas. Harrison, deserves special commendation for the excellent program arranged and for the way it was carried out all through the day.

**The Annual Outing of the Master Plumbers' Association of St. Joseph, Mo., Held Recently at Courtney's Grove, Near That City.**

**Jim's Letter to Bill on the Atlanta Master Plumbers' Barbecue.**

Atlanta, Ga., September 24, 1921.

Dear Bill:—You ought to have been at the barbecue the Atlanta Association of Master Plumbers tendered W. G. Archer of the National Trade Extension Bureau in honor of his coming into our camp. We sure had a good time, and you would have had one too if you had been there. You remember the Hemphill pumping station, which is a part of the Atlanta water works, situated at the edge of the town, and you remember the cue grounds there? Well, that's where we held our cue. And you remember what kind of cooks Joe Nunan, of the Northside Plumbing Co., and Tommy Mell, of Mell & Mell, are, and you know how they can cook when they are together? Well, they were together, and you can't begin to imagine what kind of a meal we had. There was barbecued lamb and pork galore, and Brunswick stew, and relishes by the pots and pans full. And, believe me, Bill, when the fellows down here had finished, they didn't want to run any races or swat the playful horse hide any more than you would want to overhaul the car just after taking your daily bath. All they wanted to do was to sit down and listen to W. G. Archer. And they sure did listen, because they said they did when they started home, and they learned a lot of things they didn't know before, too.

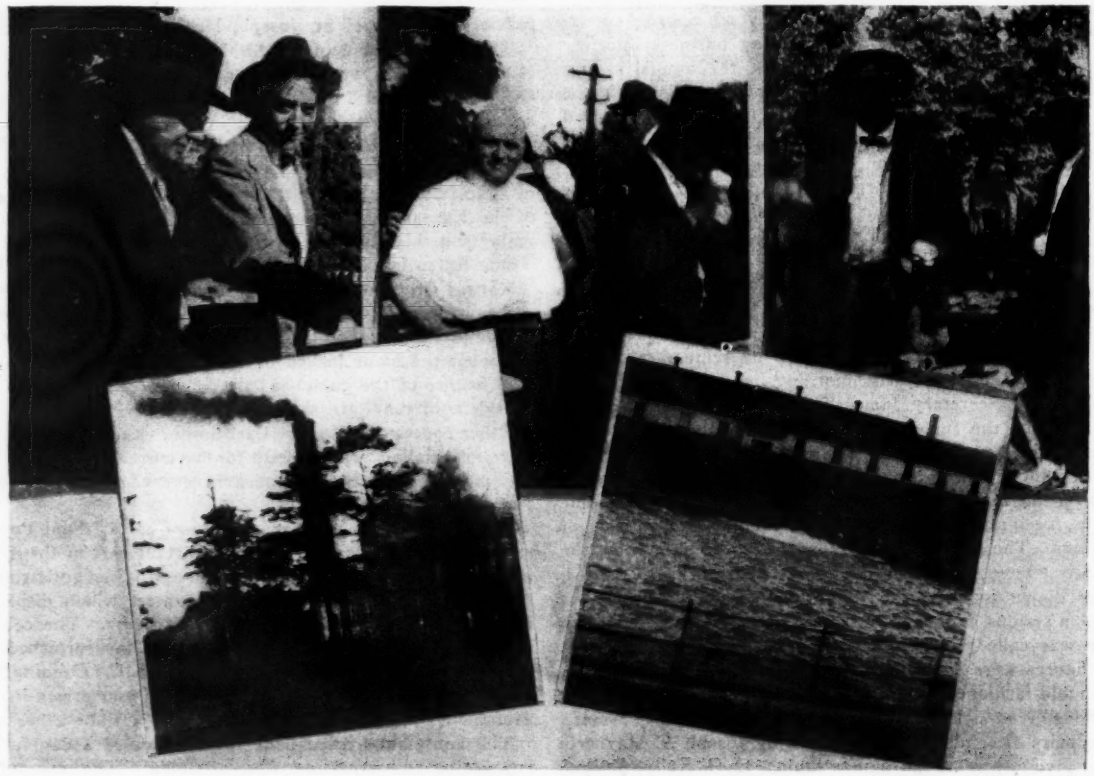
This fellow Archer is a whizz-bang, and he told us where to head-in when we came to the cross roads. He's a wonderful speaker, Bill, and his chart on the "Drawing Power of the Dollar" sure made a lot of eyes almost pop out of their sockets. This sure did show us why we weren't getting more work than we are. Why, he said, Bill, that if there wasn't another house built in this country, there was enough work right now to keep every plumber and steamfitter in the country busy for 65 years if he went out and got it. It sure must be true, Bill, for a bunch of the boys down here have stepped right out, and they're getting the old work, too. There is a lot of money in that game you know, Bill, and while there's a lot of it down here we're going out to get it. There's no hard times if we just look for work, you know, and Mr. Archer is right.

After Mr. Archer got through, we looked for some quiet place to sit down and think, and we sure thought hard about what he said. And we're going to put his suggestions to work. We sat around for a little while, and then we started home.

Again, I want to say I'm sorry you weren't with us, Bill, but we hope to see you with us mighty soon. You'll have a good time when you're down here, and if it's anything like the barbecue, you'll never regret the day you set out on the old steam cart. Yours with much hope,

Jim.

P. S. I almost forgot to tell you that some pictures I took down here are enclosed. They're pasted up on a piece of board because I thought you might like them better that way.



**Photographs taken at the Atlanta Master Plumbers' Barbecue.—Top Row, left to right: W. R. Ray, at the left; W. S. Loftis in White Shirt, and J. Flournoy at his right; George Hawkins of Statesville at the left, and W. R. McGrath of Atlanta. Bottom, The Clear Water Basin at the Hemphill Pumping Station, and the Pumping Station Itself.**

## CONVENTION DATES.

October 12, 1921.—The annual meeting of the Eastern Supply Association, at Hotel Astor, New York City.

October 26, 1921.—The annual meeting of the Central Supply Association, at the Hotel Sherman, Chicago.

November 7-12, 1921.—The third annual convention and exhibition of the American Gas Association, at the Congress and Auditorium Hotels, Chicago.

# AMONG THE PLUMBING AND HEATING CONTRACTORS

## Illinois

**Chicago Building Trades Vote to Accept Landis Decision.**

The Chicago Building Trades Council last week unanimously voted to reaffirm the recent wage decisions handed down by Judge K. M. Landis, arbiter in the building controversy. Carpenters and plumbers also concurred in the decision, and it is expected that a real start toward building is now at hand. More than $60,000,000 worth of construction work will probably be reopened as a result of this action. This amount will include work either halted or delayed by sporadic strikes. Judge Landis' recent announcement that no further hearings on the subject would be considered unless the men returned to work at the new wage scale virtually forced this action, it is said.

Curran, head of the plumbers' union, told the court that he had advised members of his organization not to work for the 95 cents an hour proposed in the award. He maintained that attitude for some time, but finally agreed to abide by its wage award provisions. The same was true of the carpenters who objected to a cut from $1.25 an hour. The most defiant of the outstanding protesting unions was that of the hoisting engineers, whose members walked out simultaneously with the publication of the new wage scale. During one of the heated sessions of the meeting they were expelled from the trades council, following which the vote for acceptance was unanimous.

The vote was received with satisfaction by virtually every union official. "We've been idle for a long while," one of them said. "One day it seemed as though the deadlock would be settled—the next it was all up in the air again.

"The officials of the unions have been forced to explain again and again to the membership. And in the majority of cases the membership—the rank and file of the employes—was tired of the fight.

"Winter is coming and they want to get work to get coal in their bins and a little laid by for winter clothing.

"There are a few hotheads who will stay away from work and fight the Landis decision. They'll come to time or the unions will find men to take their places. A thousand men aren't going to remain idle for the sake of a dozen malcontents."

**Chicago and Vicinity.**

The Roberts Plumbing Co., 4544 North Western Avenue, has the contract to install plumbing in the $24,000, three-story apartment building to be erected at 1538 Addison Street. The Muth Heating & Engineering Co., 4544 North Western Avenue, has the heating contract on this structure. Plumbing in the $40,000 residence of S. C. Barnes to be erected in Evanston will also be installed by the Roberts Co., while the heating is to be installed by the Atlas Heating Co., 25 North Dearborn Street.

William Downs, 4219 South State Street, has been awarded the contract to install heating in the $150,000 bank building which is to be erected at 4636 Grand Boulevard for the Kenwood Trust & Savings Bank.

Nilson Bros., 3222 North Halsted Street, will install the plumbing and heating systems in the $50,000 three-story apartment building and garages which are to be erected at 1344-1346 Greenleaf Avenue. The building will be 50x90 ft., with accommodations for three families, while the garage will have room for four cars.

Plumbing and heating in the two flat buildings to be erected at 46-48 North Central Park Avenue at a cost of $19,000 each, will be installed by the United Plumbing & Heating Co., 3012 West Roosevelt Road.

The Carl John Stein Co., 166 East Grand Avenue, and William V. Hoier & Co., 701 North Wells Street, have the plumbing and heating contracts, respectively on the $1,000,000 juvenile detention home to be erected at Roosevelt Road and Ogden Avenue. Architect Eric E. Hall, 123 West Madison Street, has prepared plans for the structure which will be three stories high.

George H. Breetzke, 907 West Sixty-third Street, has secured the plumbing contract on the $25,000, two-story dry cleaning plant building to be erected on Prairie Avenue near Seventy-first Street.

The contract to install plumbing in the $40,000, one-story store building being erected on Sheridan Road, north of Irving Park Boulevard, has been awarded to Nobel & Thumm, 2313 Lincoln Avenue.

Harry S. Merker, 461 North Clark Street, and M. T. Reedy, 6515 North Clark Street, are to install plumbing and heating, respectively, in the $25,000 one-story five-store building under construction at 1315 to 1401 Morse Avenue.

J. Leach, formerly associated with the P. Nacey Co., 927 South State Street, has been elected vice-president of the Carl John Stein Co., 166 East Grand Avenue, Mr. Leach will have charge of the heating department of the Stein Co.

## Ohio

**Cleveland and Vicinity.**

While heating and piping contractors and plumbing contractors are optimistic for the immediate future in the way of new work, and while the month of September has been fairly favorable in developing projects of a sizeable character, the turn of the month arrives with fewer brilliant prospects of the kind in the offing. On the other hand, while the larger interests have not as much to look forward to as in the recent past, the smaller factors in the trades are in better shape, for the amount of housing and other construction of similar kind is on the increase.

Building material and construction interests have combined to point the way to those who would be free from the joke of the landlord who does not know the war is over. Some publicity in daily newspapers has been obtained. Comparison of material prices has been made. It is shown to the people quite definitely that material prices are approximately half of last year's prices, and that now is the logical time to build a house. Moreover, without the assistance of the building trades factors, the people themselves seem to be influenced to that end, for not only do

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That is the principle on which the success of the Trane Pumping equipment has been built. We have not been satisfied merely to design and build good pumps, to rate them conservatively, and to equip them with the best motors, switches, tanks, etc., that it is possible to secure. We make it our business to know that every pump that leaves our factory is the right pump for the job.

Every Trane Pump is tested and a performance curve recorded for our file before it leaves our factory. You can have a copy of this test if you wish. It is the record of performance of the particular pump which you get. It shows exactly what that individual unit will do under the service conditions for which it is intended.

That is why Trane Pumps are a success. They are absolutely dependable. We know, and engineers who have used them know, that Trane Pumps will always do all that is expected of them, and a little bit more. A trial will convince you. One installation will make *you* a regular user of Trane Pumps.

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most landlords continue to ask prohibitive rents, but some continue to raise the said rents. The whole arrangement is working to the advantage of all concerned, not the least being the smaller plumbing and heating interests.

Advantage of lower material prices is being taken likewise by bigger building interests who have come into the market earlier than usual for the overhauling and new installation in old plant work, and this is keeping many of the bigger factors busier than usual on this class of work.

In the matter of labor some emicable agreement between the Heating and Piping Contractors' National Association and the affiliated local organization, and steamfitters' organizations, is foreshadowed in the presentation of the plan on apprenticeship employment and education, as prepared by the Heating and Piping Contractors' Cleveland Association to the board of directors of the National at its recent meeting in New York City. Chairman of the Board, W. B. Van Sickle, of this city, offered the plan. Tentatively the suggestions contained there have been approved by the National's board, and these have been passed on to a committee that will be appointed by President N. Loring Danforth, Buffalo, at an early date. Within the next few weeks this conference committee is expected to confer with a subcommittee and will report its findings on the plan at the next convention of the National, in May or June of next year. The object, before the matter is brought up at the National convention, will be to confer with local contractor associations and steamfitters' organizations, so that something in the way of a comprehensive operation of the plan can be arrived at. Members of the board believe that the plan as a whole will make for great improvement in the operation of the industry for all concerned.

The first step toward settling the long-standing dispute over the merits of the new plumbing code was taken at a special meeting of the Associated Plumbing Contractors of Cleveland this week when a resolution to eliminate the sewer test in the code was decided upon. This resolution will be introduced in the Council, which probably will have it passed on to the building code committee. The original object of the new code was to reduce the cost of plumbing installations. The sewer test has been the bone of contention among branches of the trade ever since it became effective, some months back. Contractors have asserted that the sewer test, instead of reducing costs, in that particular, at least, is cause for increased cost to the consumer. This they claim is an unnecessary expense as well.

The part of the heating and piping fraternity in the coming American Building Exposition is expected to be an important one. In any event the feasibility of exhibits at the show, which will be held in the new Public Hall about the middle of January, will be looked into by a committee from the Heating and Piping Contractors' Cleveland Association, including Ed Maurer, of the Maurer Bros. Co.; M. L. Crowell, of the Crowell & Smith Co.; M. Jones, of his own firm; A. L. Becker, of the Becker Heating & Ventilating Co., and J. Roemer, of the Roemer Heating Co. Much exhibiting space already has been taken by local building supply and allied interests, according to Manager Dick Collier, of the exposition company.

Business was strictly tabooed at the clam bake and jazz fest of the Heating and Piping Contractors' Cleveland Association, held at Miller's Road House on September 22nd. Because of this, one of the largest social gatherings of the organization was the result, more than 100 attending. A few members who thought the event timely to pass a few remarks on "How do you find business," et cetera, were promptly hauled from their platforms.

Plumbing contractors, too, have indulged in the festive clam, among them being members of the Brookside Club,

which held forth at the same famous road house, and the Progressive Club, which met on the evening of September 28th at Metz's Grove.

George W. Spohn, of the Spohn Heating & Ventilating Company, who has been ill for some time, is recovering, and will soon be back at his office.

F. S. Prior, plumbing contractor of Akron, has been appointed a member of the Model Home Committee by A. A. Hilkert, president of the Akron Builders' Exchange. The committee will consider the advisability of conducting a Model Home campaign in that city in the near future.

# Kentucky

**Louisville and Vicinity.**

Edward A. Strohmeier has a very good church contract on the St. Mathews Church, which calls for more than the usual number of fixtures.

St. Anthony's Hospital is planning additions to cost about $200,000. The plans are being drawn by D. X. Murphy & Bro., architects, Louisville. Contracts will probably not be placed until about the first of the year.

J. Edwin Davis, son of John P. Davis, 114 West Hill Street, who has been engaged in the plumbing business on Main Street, has accepted a position as assistant to the president of Eastern Sanitary Plumbing Co., Passaic, N. J.

The Schardein Athletic Club, closely related to the house of F. S. Schardein & Sons, heating and plumbing engineer, has had a very successful season on the baseball diamond this year, having played fine baseball and won many games.

# Delaware

**Wilmington Master Plumbers Visit Speakman Co.'s Plant.**

"From foundry to shipping room" might well be the name of a trip taken by Wilmington master plumbers through the Speakman plant on September 22nd. They witnessed every operation in the making of showers, lavatory fixtures, bath fixtures and so forth, from the time the ingots were received until the orders were packed, checked and shipped.

All the master plumbers in Wilmington were invited to make the trip and thirty-four were on hand. They were welcomed by W. A. Speakman, president of the Speakman Co., after which luncheon was served and the visitors divided into groups and conducted through the plant by guides who explained the various processes of manufacture.

Beginning with the pattern shop where the wooden and metal patterns are made the inspection led through the core room where the cores for valves and hollow castings are made. Next was the foundry where the molds are made, the brass is melted by an electric furnace and molten metal is poured into the molds, forming the castings. From the room where the castings are cleaned by rumbling them in steel barrels partly filled with water the next step is the grinding of the burrs from the castings.

The process that is always interesting to watch is the machining. Here are tools that do several operations at one time and that cut away the brass with smoothness and precision, turning a rough casting into an attractively formed piece.

The next process is grinding, testing, buffing, and finally after the castings have been worked up to a smooth surface the nickel-plating finish is applied.


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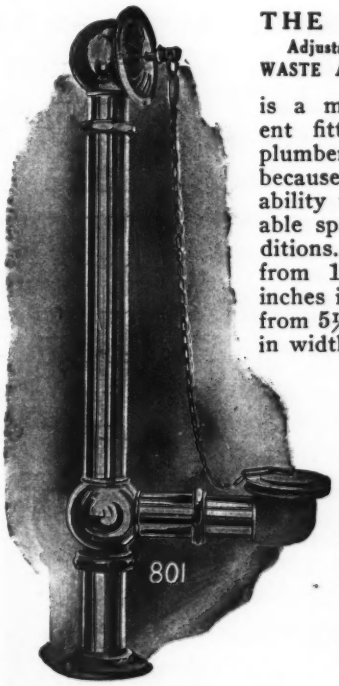
A standard line of high grade brass supplies, including everything the plumber requires in Traps, Waste and Overflows, Tank and Seat Trimmings, Lavatory and Tank Supply Pipes and Fittings, Sanitary Vent Fittings, etc.

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Adjustable Connected
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is a most convenient fitting for the plumber to install because of its adaptability to suit available space and conditions. Adjustable from 12½ to 14¾ inches in height and from 5½ to 7 inches in width.

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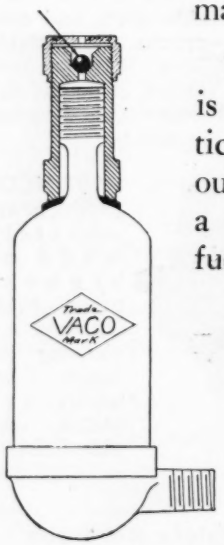


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Western Canadian Agents—A. E. Hinds & Co., Galt Bldg., Winnipeg, Canada.
Pacific Coast Representative—Wm. P. Horn & Co., Rialto Bldg., San Francisco, Calif.
Wm. P. Horn & Co., 301 Kerckhoff Bldg., Los Angeles, Calif.
Wm. P. Horn & Co., 711 Deekum Bldg., Portland, Ore.
Wm. P. Horn & Co., 1105 L. C. Smith Bldg., Seattle, Wash.


As the Speakman factory is working full time with a full force, the visitors had an opportunity to gain an idea of the amount of plumbers' brass goods and showers that are shipped out of Wilmington.

The visiting plumbers were: Robert Barnett, Thomas J. Biscoe, George C. Davis, Frank H. Escott, Elwood C. Evans, Fred W. Gawthrop, George C. Hutton, Anglo Julian, Herbert E. King, Frank O. Moseley, E. P. McKay, John J. O'Connor, William G. Robelen, Sabatino Russo, A. L. Sharpe, William D. Shellady, Charles Stewart, William W. Thompson, Thomas E. Vadden, T. T. Weldin, James Wharry, John Wharry, Charles P. Witsil, Thomas Mullan, Jr., Miller Smith, Wm. T. Inderlied, Alfred Jefferis, Robert Grier, Townsend W. Miller, Miller Shaw, C. J. Allison, George S. Bigger, Jr., Joseph A. Briggs and F. H. Elliott.

# Georgia

**Atlanta.**

Landers' Plumbing & Heating Co. has moved its office and show rooms from 71 South Broad Street to 112 Edgewood Avenue, where a three-story and basement building was recently constructed.

George Lyle, of the Dixie Plumbing Co., the only master plumber ever elected to a place on the Board of Health, has succeeded in doing what the plumbers have wanted done for a long time. He has established the office of the clerk in the Plumbing Inspector's office, which relieves the chief inspector of the routine work of keeping the books and records of permits and gives him more time to look after the actual work of the office. Ralph T. Clark has been elected to the new office.

Henry Kirk, representative of the Savannah Supply Co., has moved his office from Atlanta to Charleston, S. C.

Carl O. Harmson, for several years an assistant plumbing inspector, has resigned that position on account of failing health. Mr. Harmson is one of the old plumbers of Atlanta and has taught several of the best plumbers in the south the science of plumbing.

# Tennessee

**Memphis.**

The Tri-State Plumbing & Heating Co. has opened offices at 466 Randolph Bldg. J. Walter Jones is president, and B. A. LaBundy is manager.

J. J. Rapp has opened a plumbing business at 296 Mill Avenue.

The Local Plumbing Co., 167 Jefferson Avenue, which was opened last summer is operated by Messrs. Riggins and Norment.

G. R. Tucker & Co., Madison Avenue, have equipped a modern shop, store room, display room, etc., and have secured plumbing contracts on twenty-one residences and one large apartment house to be erected in Memphis.

A swimming pool, 25x75 ft., one of the largest private tanks in this section, will be one of the features of the Catholic Club building which is to be erected at the southeast corner of North Third Street and Adams Avenue, Memphis. The structure will be six-stories. Plans have been prepared by Architects Regan & Weller, Bank of Commerce Bldg.

Wenzler Bros., composed of W. F. and R. C. Wenzler, are now operating a plumbing shop at 758 Dunlap Street.

The Modern Plumbing Co. for several years conducted by B. V. Remmers, on Copper Avenue, has been moved to 1102 Union Avenue, where a modern shop, display and stock rooms have been equipped.

The interesting announcement was made this week to the effect that Memphis is to have a new sky-scraper, which will be the tallest one in the city. The building will be erected at the corner of South Court Avenue and Maiden Lane, facing the Court Square. The structure will be twenty-one stories high, of steel and concrete, with the exterior done in white terra cotta and tile and the interior finish of marble, on the lower floors, and hardwoods on the upper floors. Each floor will comprise 4,400 sq. ft. of floor space. The building is near the Exchange sky-scraper and will be on the site formerly occupied by the Park hotel. The investment will amount to more than $1,000,000. Plans have been prepared by Architects Hanker & Cairns.

The Sanitary Metal & Plumbing Co., Jackson, had discontinued its branch on Jefferson Street, Brownsville, Tenn., which the company has operated for a number of years.

## Massachusetts

G. J. Aiken, a plumbing and heating contractor at 97 North Water Street, New Bedford, is erecting a business building to be occupied in part by himself, at the corner of Kempner and Summer Streets, in that city. The building will be two and half stories high, of reinforced concrete and will cost about $50,000.

The C. A. Ludden Co, of Springfield, has the contract for plumbing and heating in a building in Chicopee for P. P. Starkz, to contain two stores and ten offices. One of the stores will be occupied by the postoffice.

Extensive alterations are being made in the handsome residence of E. W. Sprague on Commonwealth Avenue, Boston. The plumbing contract has been awarded to J. C. McCarron, Broad Street.

## Connecticut

**New Haven and Vicinity.**

Plans have been completed for a new building for the Center Church Home for the Aged at New Haven. Three four-story brick houses on Trumbull Street will be remodelled for the use of the home and new plumbing and steam heating systems will be added.

St. Paul's Episcopal church in Bridgeport is to have a new heating plant. Various church societies are raising the money.

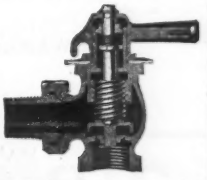
Mayor Curtis of New Britain has announced that he will call a meeting at an early date of the city planning commission for the purpose of considering the selection of a site for a proposed new public comfort station. A location in Central Park is said to be generally favored. It is planned to build an underground station.

M. J. Daly & Sons, Inc., of Waterbury, have the contract for plumbing and heating installation in a new high school building in that city.

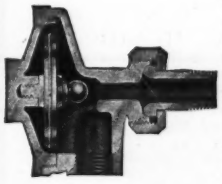
Extensive changes are being made in a business building at the corner of Pearl and South Ann Streets in Hartford


**ILLINOIS**
**Vacuum and Vapor Systems**
***of Steam Heating***

Represent highest development in satisfactory and economical heating of buildings. Thousands of installations have been made in practically every type of building.



Illinois Packless Modulating Radiator Valve. Opens or closes on one-half turn. Installed at top of radiator within easy reach. Made strong and heavy of best steam brass.



Illinois Thermo Vacuum Trap produces higher radiator efficiency. The original vertical seat trap. Concave diaphragm—closes against steam. Guaranteed for long life and satisfactory operation.

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**CHICAGO ILLINOIS**
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**SERVICE When and Where It Is Needed**

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The basic principle of our organization is **Service** and Co-operation with the heating man who has temperature regulating equipment to install or repair. Our engineers are specialists in this line—ready to serve you at all times.

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***The JOHNSON SYSTEM OF HEAT REGULATION***

is the oldest on the market and absolutely dependable. A special feature is the "Sylphon" Metal Diaphragm Valve — the greatest improvement ever made in temperature regulating apparatus.

The Indestructible "Sylphon" Metal Diaphragm Valve.

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**Johnson Service Company**
**Milwaukee, Wis.**

KEWANEE

The cost of heating water can be reduced to a minimum by using garbage as fuel in a Kewanee Water Heating Garbage Burner.

KEWANEE BOILER COMPANY
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TRAGESER
Pantry Sink with Drainboards

Made of White Metal or German Silver.
We make Metal Pantry Sinks and Drainboards in a variety of designs for high class installations.
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DESOLVO and COLD WATER

is the plumber's best helper. Clears up obstructed pipes quicker, better and with less labor than by using any other method.

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*"K-K" Cleans Closet Bowls the Sanitary Way*

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Ready for immediate delivery in the following sizes:
Horizontal Tanks—from 30 in. by 6 ft. to 42 in. by 14 ft.
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Hamburg, Berks Co., Pa.
*We also manufacture Steam Boilers, Hot Water Boilers and Plate Steel Drums*

for the K. B. Noble Company. The Shaffer-Marsh Co. has the heating contract, and J. Lyon & Sons the plumbing.

A handsome new Y. M. C. A. building is soon to be erected in Naugatuck The plumbing and heating contracts have been placed with M. J. Daly & Sons, Inc., of Waterbury.

**Trade Extension Campaign in Connecticut.**

Master Plumbers Associations in a number of Connecticut cities were visited by Daniel L. Hanson, of the National Trade Extension Bureau during the first few weeks of his fall campaign in New England. The first meeting was held at Bridgeport with President Joseph J. Mullins in the chair, and this was followed by other meetings at Waterbury, President Edward Malony presiding; New Britain, President Claude J. Leroux; New Haven, President Dempsey; and New London, President Harry Dempsey. In between times Mr. Hanson made a side trip to Springfield, where President W. J. Hyland had arranged a meeting of master plumbers from surrounding cities.

At each of the meetings the local association acted as host to master plumbers in the vicinity with the result that there were uniformly large attendances. Charts descriptive of the plumbing and heating industry, showing its possibilities and its achievements to date, as compared with other industries, were displayed and explained by Mr. Hanson. Then followed an open discussion which in nearly every case kept the meetings in session until close to midnight.

## Rhode Island

Architects Wm. R. Walker & Son, Providence, have prepared plans for the proposed addition to the Rialto Theatre in that city, which will be 40x40 ft., and built in the rear of the present moving picture playhouse on Mathewson Street.

Architects Monks & Johnson have prepared plans for the large jewelry building for Williams & Anderson in Providence. Bowerman Bros., 230 Industrial Trust Building, have been awarded the general contract on the structure, which is to be 160x60 ft., with a one-story wing 100x60 ft.

W. H. Spaulding, Saylesville, has the contract for plumbing on the residence to be erected on Beechwood Avenue, Pawtucket, for Miss S. Sirceau.

Architect W. F. Fontaine has completed plans for remodelling the stores and apartment building at 257 Main Street, Woonsocket.

William R. Keller, 391 Elmwood Avenue, Providence, has the contract to install plumbing on the residence of Grace D. Knight on Reservoir Avenue. Plumbing in the new Williams & Anderson building on North Main Street will also be installed by Mr. Keller.

## New Jersey

**The Bath-a-Day Campaign in Jersey City.**

Under the headline of "The Neglected Bath-tub", the "Jersey Journal," the leading daily newspaper of Jersey City, N. J., recently printed an editorial which has been joyously hailed by local master plumbers as a considerable assistance in their endeavors to sell the daily bath idea to the people of this important New Jersey community. The editorial read as follows:

"Take it from the United States Government Bureau of Education, Saturday night is not the only night that a per-

son should get into the bath tub and soap up and rinse. The rate of exchange on baths has 'riz'. Twice a week, at least, is the proper amount of bathing, if one desires to keep his health. This will come, no doubt, as a shock to those who have viewed the weekly bath as a grim duty that had to be gone through with, and will give a shock of horror to those whose ablutions have been covered by the spring and fall baths.

"However, the Department of Education does not tell what the vaudeville artist terms 'the half of it'. As a means of preserving health, the daily bath, finishing with cold water and a hard, dry rub, is one of the best life insurance policies that men and women can take. Once you get the nack of it—the whole job doesn't take six minutes—and once the habit is established, it will never be dropped. If women understood all that the daily bath can do for the complexion, there would be more bath towels and soap sold, and less barbarous-looking paint and powder."

**Other Cities in the State.**

Adolph C. Joseph has recently opened a plumbing and heating establishment at 331 Buffalo Avenue, Egg Harbor City.

James Tindaro, 2318 Atlantic Avenue, Atlantic City, has the contract to install plumbing and heating in the Ruffu garage building and the adjoining apartment and store building, which are to be erected in that city.

Leverman & Davidson, 126 South Georgia Avenue, Atlantic City, will install plumbing and heating in twenty residences to be erected in that city for the J. S. Abed Construction Co.

A. M. Smith, 3314 Atlantic Avenne, Atlantic City, has the plumbing and heating contracts on ten residences to be erected for the Sericusa Co., and sixteen residences for Dr. Roof.

William H. Brighton & Co., Main Street, Avon-by-the-Sea, have the contracts to install plumbing and heating in an apartment building and in several residences to be erected there, and the plumbing in a $20,000 residence to be erected in Deal.

George C. Brown & Son, 120 Second Street, Lakewood, will install plumbing and heating in the Palace theatre building.

Matthews & Chrisman, Keport, will install plumbing and heating systems in a new church building in that city.

W. P. Morris, Keyport, has the contract to install plumbing and heating in the new $15,000 residence of Seabrook Schanck.

# New York

**New York City and Vicinity.**

That the coming winter will be active in building construction work is the belief expressed by representative master plumbers in Greater New York, who have been keeping a close watch on current conditions. From the first of the year to spring, a particularly intense rush period is looked for because of the anticipated anxiety of owners to have their structures qualify for tax exemption. To gain the exemption, the builder is required by the law to at least have the foundation of his structure above grade by April 1, 1922, and there is little doubt in the minds of local plumbing and heating contractors but what, as the date of this time limit draws nearer, construction work will speed up to an extent that will furnish a great deal of work for local plumbing and heating contractors.

This optimistic prediction is borne out by reports coming from the building material market, and particularly from, the New England, New Jersey and New York common brick industries. Manufacturers in these centers declare that the demand is now so great that the plants are "up to hot brick"—an expression meaning that there is no shed reserve—that market demand is actually calling for brick right out of the kiln.


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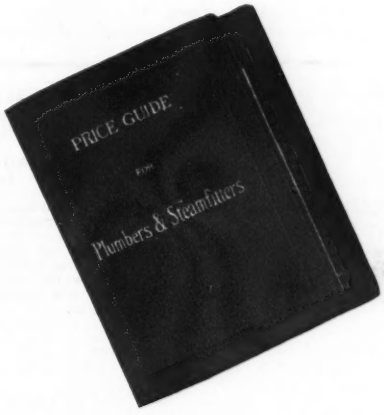


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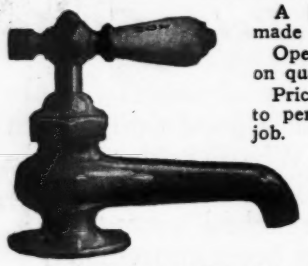

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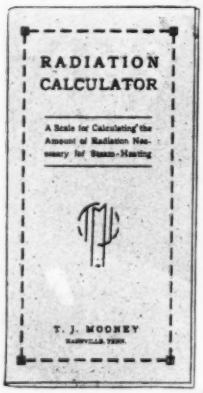


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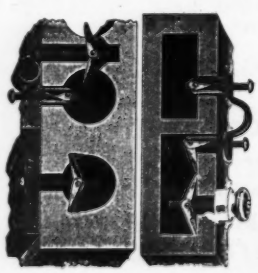

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Better conditions in other basic building commodity markets are also reported, but the danger of over-extension in some of the trades is beginning to be sensed, according to the Dow Service, which says the pell-mell order-taking without special regard to prices or delivery conditions is rapidly giving way to more conservative salesmanship, as some of the idle plant capacity has been safeguarded by enough new business to insure at least part-time operation until the building movement demands more out-turn of material and equipment.

"There are some basic building commodities," the Dow report continues, "where plant operation, on the other hand, is approaching maximum, as in the case of cement and the common brick industries of New England, New Jersey and New York. The possible menace that confronts these industries lies in the fact that with neither the dealers nor the manufacturers having material stocks in reserve the conditions of supply here this winter will be as inelastic as they were early in 1920, when railroad strikes and over-congestion on the railroads and highways brought about a condition of stressed delivery, with prices commensurate thereto.

"It is becoming generally recognized in the New York construction industry that prices alone, at the present time at least, do not represent the sum total of benefit to the investing owner coincident with conditions of building material supply and present and potential demand. Deliveries, for example, are just being made on certain building materials bought solely on a price competitive basis before the 1920 winter and spring building material stampede started, although the same kind of material bought later under the premium system, when builders were counter-bidding against each other for deliveries, have long been set into buildings which have been producing returns on investments as completed projects for almost a year.

"The recent change upward in some basic building commodity price levels eloquently proclaims the fact that conditions are not considered right, by both manufacturers and dealers, to permit themselves to be stampeded into the winter construction era on margins so near to cost as to allow no factor of safety in case of a protracted wage dispute, rail congestion, or fuel shortage, necessitating extra long carrying costs for piled up inventory, pending resumption of building operations.

"There is reason to believe that, as a whole, the forthcoming winter is to be an active one in basic building construction. There is not as bright an outlook for some of the finishing trades, between now and the first of the year, owing to the fact that actual construction work made such a late start. The finishing trades, however, may look for a rush period from December to early spring, when the tax exemption law expires."

One section of the metropolitan district that will be particularly alive with the building of homes within the next few months is the Jamaica estates property, flanking Hillside Avenue, Jamaica, L. I. Here some five hundred owners of vacant lots have organized into an association to cooperate in speeding up housing construction before tax exemption expires. With the view to getting water, gas, etc., into other streets in this section, a public meeting was recently held at which the property owners were addressed by Borough President Connolly, who told just what the city would do, and what property owners should do to put this section in the way of making it ready for the hundreds of homes most of the owners are anxiously waiting to build on these lots. The meeting was attended by several local master plumbers.

The activity in this suburb is more or less duplicated in all the suburban sections of New York. On Manhattan

itself, however, plumbing and heating contractors are finding business at the present time a great deal slower than could be desired. It is an outstanding fact that, taking the general run of Manhattan plumbing and heating contractors, the time is indeed ripe for a turn for the better, this being especially true of those who specialize in work on office and industrial buildings rather than in home construction.

"Business generally is slow," said Louis H. Eggert, of the firm of Charles H. Darmstadt, which is in this latter class. "Many contracts on which we have bid appear to have been let at prices practically precluding the possibility of a reasonable profit. Undoubtedly there has been plenty of building going on, and considerable new work has been awarded, but at little or no profit to the contractor. We are not doing business for nothing, and we have been obliged to let this work go by the board.

"There is very little repair work being done in our immediate district. As a matter of fact, we do not usually do much of this job work, but even the landlords for whom we have built have not yet called us up to estimate on replacements and winter installations, as they usually do."

Among contracts for heating in the suburban districts, one just let is for the installation of full equipment in the Canoe Place Inn, at Good Ground, L. I., of which structure W. L. Bottomley is the architect. This building comprises some thirty-five rooms and will have glassed-in verandas, so as to provide all the features of a winter resort. On the verandas as well as in the rooms and suites radiators are to be installed, upwards of eighty in all. Alexander Cameron, Inc., secured the contract.

## California

**San Francisco and Vicinity.**

James & Drucker, of this city, have a great staff of journeymen at work installing plumbing fixtures in the new Commercial Union building which is under process of construction at Pine and Montgomery Streets. The Union building is a class A, sixteen-story office building of steel construction and brick exterior. The plumbing contract amounts to about $80,000 while the approximate cost of the building is $2,000,000. George W. Kelham is the architect and P. J. Walker & Co. are managers of construction.

Henry von Tagen, who makes a specialty of installing marine plumbing, recently equipped the vessel "Will Polo", of the Williams line, with a ventilating system, which makes it possible for cargoes of California oranges to be shipped to the Atlantic coast by water.

A three-story store and office building called the "Commercial" is to be built in Long Beach at 548 Pine Avenue at a cost of $90,000. The contract has been awarded to J. D. Sherer, and plans for the building were drawn by J. W. Park.

**Los Angeles.**

A new building to cost $150,000 is to be erected at the county hospital for the treatment of patients, suffering from communicable diseases. Plans and specifications call for a three-story building to accommodate 100 persons.

A $3,000,000 retail bakery with a capacity of one hundred thousand loaves of bread a day is to be built near Twentieth Street and Vermont Avenue.

It is announced that Hollywood's $700,000 theatre will be completed before Christmas. The present working crew will be doubled by a night force. This theatre will have the largest auditorium on the Pacific coast.

The auditorium and laboratory building for the Union

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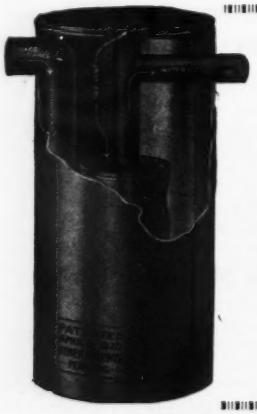

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**American Sanitary Sewage Co.**
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Oil Co. will be erected without delay. The cost will be $256,000. The building will be three-stories, 144x110 ft.

Leonard L. Jones and E. L. Mayberry, Architects, 468 Pacific Electric Building, are taking bids for the erection of a ten-story reinforced concrete loft building at the corner of Seventh and Bixtel Streets, for W. W. Paden and associates.

The John Simpson Co., 701 Antonio Street, has been awarded a contract at $21,950 for completing the Assembly Hall building of Hermosa school. Charles Cassidy Pomona was awarded the plumbing contract at $3,450.

An athletic club building to cost $200,000 is one of the improvements promised for Hollywood. An association is being formed for that purpose, and a board of directors has been elected.

Bids are now being taken for the erection of a group of buildings on the suburban estate of Thomas Ince in Benedict Canyon, Beverly Hills. The buildings are to be of hollow tile, with plastered exterior and will include a residence, gymnasium, 50x30 ft., gardner's cottage, two garages, repair shop, pump house, swimming pool, and sewage disposal system.

### Long Beach.

Long Beach led all southern California cities, outside of Los Angeles, in valuation of building for August with a total of more than $800,000. Glendale ranks third with a month's record of $576,543.

F. H. Butterfield, Long Beach, has had plans prepared and will erect two apartment buildings at 71-73 and 75-77 Alamitos Avenue.

### Other Cities in the State.

Orange County is to have a new $100,000 jail at Santa Ana. The plans were prepared by Architects John Parkinson and Donald Parkinson of the Title Insurance Building, Los Angeles. The building is to be four-stories, 100x125 ft.

Bonds to the amount of $35,000 have been voted and sold, and Eagle Rock school district is soon to begin the construction of a new three-room building, with additions to two other schools. J. C. Austin, Ditwiler Building, Los Angeles, is the architect.

The $60,000 bond issue for extensions and improvements to the city water system of Glendora, was carried at a special election.

The Zion Lutheran church of Anaheim is to begin the construction of a $30,000 church.

Miller & Eddleman, San Diego, were awarded the general contract at $277,814 for erecting a junior high school at Logan Heights. W. C. Merritt & Co. were awarded the contracts for plumbing and heating at $35,787.

Plans have been accepted by Charles A. Ottman, of Livingston, for a new hotel building to be erecter where the old Livingston hotel stood formerly. All the upstairs rooms will be provided with hot and cold water and electric heaters. Investment about $35,000.

The Visalia Plumbing Co. has been awarded the contract for equipping the King and Tulare Counties Joint Tubercular Hospital at Springfield. The equipment includes fixtures for boiler house, fuel oil tank, incinerator, oil burner heating system.

The autumn season shows a renewal of industrial expansion in Richmond, one of the well-known manufacturing cities in the vicinity of San Francisco bay. The Pacific Plumbing Fixtures Co. has just let a contract for an addition 300x150 feet to its plant.

Cobby & Owsley, of Atascadero, have been awarded the plumbing contract on the new grammar school building in that city. Their bid was $4,500. Carver & Aschmann were warded the heating contract at a bid of $3,381. The building is to cost about $60,000.

**Tacoma and Vicinity.**

Building operations in Tacoma during the month of August totaled almost $100,000, or close to 50 per cent, higher than in the same month of 1920. Included in the permits issued were those for 63 residences valued at $114,620. Large construction included a $50,000 church and a $45,000 school.

The T. H. Bellingham Co., Tacoma, announce the return to their firm of C. T. Nunn, who was with the company before the war. Mr. Nunn becomes manager of the department of plumbing construction. Mr. Nunn has been with the Todd Dry-dock & Construction Co. since the beginning of the war. H. A. Pickert, whose place Mr. Nunn takes, will become manager of the heating construction end of the business.

The Union Plumbing Shop, 217 Main Street, Vancouver, recently opened for business, with a complete line of modern equipment. O. T. Clark and George Bertrand are the owners of the concern.

## Idaho

The general contract for the new Junior High School in Lewiston, has been let to J. J. Lohrens, of Spokane, on a bid of $147,464. The contract for plumbing and heating has been awarded to Kane-Heavlin Co., of Lewiston, on a bid of $27,886.

Architect J. E. Tourtellotte, of Boise, has issued a call for bids for construction of a one-story school at Roswell. The structure will cost 35,000. The firm has also started preparation of plans for a three-story hotel addition to be built at Emmett, at a cost of $30,000.

**PROVINCE OF ONTARIO.**

**Toronto.**

W. H. Cunningham & Hill, Ltd., 269 West Richmond Street, Toronto, dealers in plumbing and heating specialties, have recently been appointed Canadian representatives of the Hercules Chemical Co., New York City. The Cunningham company was formerly known as W. H. Cunningham & Co., with Mr. Cunningham at the head. Later, Mr. Hill, formerly Canadian represenative of the Good Mfg. Co., Inc., New York City, joined the concern, which has since been known as W. H. Cunningham & Hill, Ltd. T. H. McLaren, formerly of the Galt Brass Co., Ltd., Galt, Ont., was recently appointed a director of the company.

**Brantford.**

The citizens of Brantford have voted to spend $65,000 on sewer extensions in Eagle Place, for relief work this winter.

Ontario plumbers have a golden opportunity to extend business each fall by having exhibits at the Toronto Fair. This Fair is the greatest on the continent, and attracts over a million people. Many manufacturers show their latest and best products, and much business, both for the urban and rural master plumber, usually results from these splendid exhibits.

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CHICAGO POTTERY CO.
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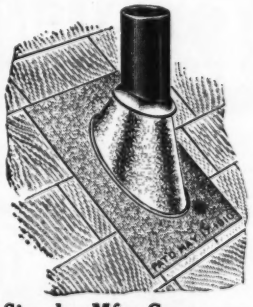
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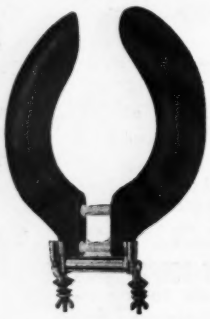

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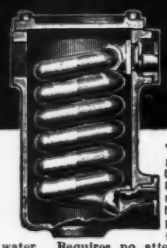

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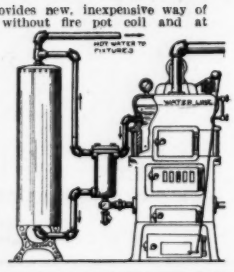


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## PREVENTING CORROSION IN HEATING SYSTEMS.

(Continued from Page 53.)

occupied by the metal from which it originates, causes a very rapid choking and stopping up of the pipes. Rust also discolors the water, giving it a very disagreeable appearance, and in turn causes very unsightly stains which are hard to remove.

The passage of deactivated water through an old corroded system not only prevents further corrosion, but will gradually dissolve and wash out the existing accumulations and keep the system clear and free from corrosion.

You will also be interested in knowing something of the cost of such apparatus as we have been talking about, and as to what return it may be expected to show upon the investment.

Ordinarily speaking, the cost of this apparatus will run from 5 to 10 per cent of the replacement cost of the materials protected. This means that the carrying and depreciation charges might amount to from ½ to 1 per cent of the replacement cost. Figuring on an average life of ten years for piping and apparatus without protection, it would be that for a total cost of from 5 to 10 per cent of the cost of replacement the entire system may be protected and such replacement costs postponed practically indefinitely.

Another way of measuring the cost is on the basis of amortizing the cost of the apparatus over a period of 10 years. The sinking fund cost together with the carrying charges would amount to from ¾ to 1½ per cent per year, and at the end of 10 years the entire first cost and carrying charges would be wiped out, thus giving a full paid up insurance for the remainder of the life of the building.

You will no doubt be interested in some illustrations of some of the commercial deactivating apparatus which is now on the market and also some of the curves showing characteristic hot water demand rates for various types of buildings.

Fig. 1 illustrates a new type of de-aerating deactivator, the construction and operating principles of which are as follows:

The various parts illustrated by this illustration are lettered to correspond:

A is an exchanger section,

B is a heater section,

C is a de-aerating section,

all being cylindrical in form and superimposed one above the other.

These sections are all constructed of open hearth steel and sections A and C are lined on the inside with regular high temperature enamel for protecting all of the steel interior of these shells, which comes into contact with hot water.

The remainder of the apparatus is constructed either of copper or bronze, so that the entire machine is practically non-corrosive throughout and has a life far in excess of that of the ordinary buildings.

The raw water to be deactivated is brought in through pipes "D" and "E" to a distributing chamber "F," from which it passes through the copper exchanger coils "G" into copper heater coils "H." From these coils the water passes into hot water storage chamber "I," from which it is led through pipes "J" to the top of a series of copper pans "K," over which it is cataracted and falls into chamber "L." From chamber "L" the deactivated water passes down through copper pipe "M" into the shell of exchanger "A" where it passes over the outside of coils "G" and out through outlets "N" and pipe "P" to the house heaters.

The operation of the apparatus is as follows:

The entering water is heated in coils "G" by an exchange of heat between the incoming water and the outgoing water so as to bring the temperature of the incoming water up to a certain point without the use of any heat except that given up by the outgoing water, thus reducing the temperature of this

outgoing water. The water then passes into the heating coils "H," where it is heated by steam in the steel of section "B," this steam being delivered through pipe "R" and controlled automatically by diaphragm valve "S," which is operated by temperature element "T" in hot water storage chamber "I" the condensation return being removed through pipe "U."

The water thus being heated to the proper temperature for deactivation is allowed to cataract over the pans where it is broken up so that the free dissolved gases are given up and are drawn out through copper vent "V," which is extended up to the atmosphere and capped with a ventilator cowl to give the proper flue action for the removal of these gases.

The removal of these free dissolved gases by this type of apparatus is due to the fact that the saturation contents of water is automatically reduced as the temperature is raised, so that at a point approximately the boiling temperature about 95 per cent of these gases will be liberated. The deactivated water then passes out through the exchanger section as explained and goes to the house heaters about 50 degrees above the temperature of the incoming water. This 50 degree raise represents the net heating which is required to be done in this apparatus, although the temperature at which the water is raised in the de-aerating chamber is about 210 degrees.

All of this heat which is added to the water leaving the apparatus is of course transferred directly to the system and reduces the amount of heat necessary to be added by the house heaters, thereby causing no loss of heat except a very small percentage for radiation and allowing the machine to operate at a thermal efficiency of almost 100 per cent.

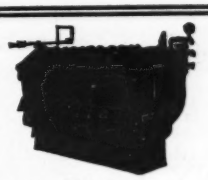
The water to be deactivated is fed to the machine through a balanced valve "W," which is operated by a float "X" in the de-aerating chamber, so as to maintain a constant water line in this chamber by feeding water to the apparatus at a rate commensurate with the rate at which water is drawn from same to the house. The recording thermometer "Y" is connected to the hot water storage chamber "I" so as to make a record of the temperature at which the water is being deactivated.

Shut-off valves are usually installed on the inlet and outlet of the machine and a valved bypass is furnished so that the machine can be shut off for repairs and cleaning without interrupting the house service. Valved blow-downs are furnished for the various sections so that the apparatus may be easily cleaned and drained. Large manholes are furnished for inspection and repairs.

Two types of deoxidizing deactivators are shown by Figs. 3 and 4 for coal or gas heated and steam heated domestic hot water systems respectively. In each of these systems the raw heated water is passed through a deactivator filled with specially prepared highly corrosive deactivating metal. The design of the system is such that the water remains in contact with the metal long enough to expend substantially all of its corrosive activity upon the cheap easily replaceable metal instead of upon the more expensive and less accessible metals of the piping and apparatus. After leaving the deactivator the water is passed through a special hot water filter to free it of the colloidal iron rust and is then ready for use. The water delivered by the apparatus is bright and pure, and may be carried for any distance in uncoated pipes without causing corrosion or becoming discolored or contaminated with rust. Small auxiliary heaters are used to reheat the circulation, so as to insure a free flow of the deactivated water without again passing through the deactivating system. Automatic temperature control, gauges and recording thermometer are usually supplied for proper operation and record.

**Important Points to Remember.**

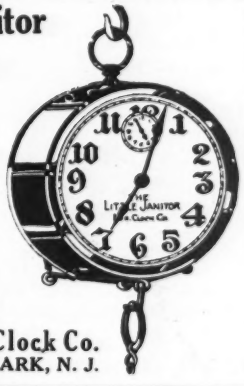
1.—That corrosion is one of the ancient destructive agencies of all times and that rusting, although the commonest and most prevalent form of corrosion, is the last to be thoroughly understood.

ECONOMY EFFICIENCY

This is a
**Pierce Down Draft, Magazine Feed, Smoke Consuming, Heating Boiler**
Saves Fuel Labor
*Manufactured only by*
**PIERCE, BUTLER & PIERCE MANUFACTURING CORP.**
Brooklyn Boston Worcester NEW YORK Detroit Syracuse Newark Philadelphia Baltimore Washington

**National Plumbing & Heating Supply Co.**
201 East 63rd Street, Chicago, Ill.
**YOU'LL LIKE OUR SERVICE**
*— Call the —*
**NATIONAL**

**Tillery's Little Janitor Furnace Clock**
*For Steam, Hot Water, Hot Air Furnace and Electric Switches*
Center location of bottom release on clock, insures proper balance and strength, under all strain of weights.
Insures comfort.
Saves Coal.
Inexpensive.
Guaranteed 1 year.
Money maker for trade.
*Write for merits of our clock and trade discounts.*


**Tillery's Little Janitor Clock Co.**
164 Market Street NEWARK, N. J.

**"HAAS" Water Closets**
are high grade, insuring maximum service and minimum expense.
**PHILIP HAAS CO., DAYTON, OHIO**

**Easily Cleaned**

The APEX Closet Bowl has special features that place it in a class by itself.

Clean-out device located at head of trap. Any obstruction can be located and removed in five minutes without disconnecting from floor or water. Cannot overflow. Silent in operation.

*Find out all about the APEX before installing another closet bowl. Write*

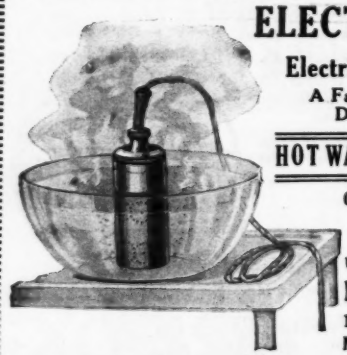
**THE APEX SUPPLY CO. INC.** 203 E. STATE ST. TRENTON, N. J.

FOR lasting quality and true capacity use *"KOVEN"* Pure Iron Double Row Riveted, Galvanized Range Boilers, or *NACO* Galvanized Range Boilers made of open hearth steel. These boilers may be bought of jobbers everywhere.

**L. O. KOVEN & BRO.**
**154 Ogden Ave., - - Jersey City, N. J.**

**ELECTRO-BOIL**

**Electric Water Heater**
**A Faithful Servant, Day or Night.**



**HOT WATER INSTANTLY**

Guaranteed never to burn out.

A profitable line for the dealer.

*Write for particulars.*

**Milwaukee Mfg. Co.**
1316 Fond du Lac Ave.
MILWAUKEE, WIS.

**"QUIK-OPE"**

Bibbs, Bath and Basin Cocks stand the test of Service. It is built into them.

MANUFACTURED BY
**THE HAYDENVILLE COMPANY**
HAYDENVILLE, MASS.

2.—That although there is an enormous amount of corrosive destruction continually going on it is entirely unnecessary. We have known for a long time how to protect against free acids, alkalis and salts, and we now know how to prevent ordinary rusting where protective coatings fail and where chemical treatment is unnecessary.

3.—That in all cases where water is confined in a closed system the free dissolved oxygen in the water is either the principal cause or the principal contributory element inducing corrosion. That the removal of this free dissolved oxygen will in most cases substantially stop corrosion and in the remaining cases very materially reduce such corrosion as might be caused by other agencies.

4.—That this applies to the tanks, heaters, piping, etc., of buildings, and especially the hot water systems; to the heaters, pumps, feed piping, economizers, boilers, etc., of power plants; to the hot and cold water handling systems of industrial plants and to the water apparatus aboard ships.

5.—That the influence of free acids, alkalis and salts ordinarily found in waters are as follows:

Free carbonic acid gas promotes corrosion in the presence of free oxygen, but is practically inactive in its absence except at extremely high temperatures. Other free acids such as nitric, hydrochloric and sulphuric will cause corrosion if in proper concentration, but in their usual diluted state, requires free dissolved oxygen in the water to make their corrosive action very effective.

Carbonates of calcium and magnesium and other temporary alkaline salts may retard corrosion by depositing a protecting coating on the metal and by acting as negative chlorides. At very high temperatures these carbonates may give off carbonic acid or caustic solutions, thereby promoting rather than retarding corrosion, especially in the presence of free oxygen.

Some chlorides, especially magnesium chloride, hydrolize to form free acids which in the presence of free oxygen are highly corrosive, but in the absence of free oxygen are not very corrosive unless allowed to collect into exceptionally strong concentrations.

Carbonates and chlorides are both scale forming, even at the temperatures of domestic hot water and especially so at steam boiler temperatures. They therefore provide some protection against their own corrosive action, but this does not prevent pitting which is the real measure of destruction.

Sulphates and nitrates are more scale-forming than corrosive, but fail to act in either way except at and above high pressure boiler temperatures. At extremely high temperatures they may be dissociated and act as do the chlorides at lower temperatures.

6.—That the influence of temperature is to increase corrosion as the temperature is raised.

At 180 degrees F. corrosion is about ten times as rapid as at 50 degrees and at 210 degrees it is about 50 times as rapid as at 180 degrees.

7.—That gas free water is not only non-corrosive but prevents scoring of engines, turbines, etc., by eliminating the dirt of corrosion and increases condenser efficiency from 20 to 25 per cent by eliminating the air blanket around tubes without requiring any more energy to remove the air before it enters the boilers.

8.—That the prevention of corrosion by eliminating free oxygen applies to brass as well as iron and steel.

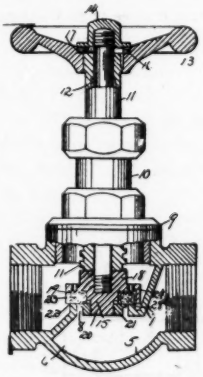
---

**The unemployment conference** which has been meeting in Washington has adopted a program for quick relief of the situation. Manufacturers, wholesalers and retailers are advised to cut prices to a reasonable profit basis. The conference finds conditions better with steady improvement noted in the industrial situation during past two months. The maximum of idle workers is placed at 4,000,000.

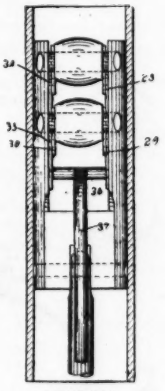
# Patents

**Heating Department.**

1,389,955. Valve. George B. McCracken, Willimantic, Conn. A valve structure including a supporting member, a valve spindle movably supported by said member, a valve holder carried by said spindle and having on one side a hub and on the opposite side a pocket for a valve with openings from the back of the holder and on opposite sides of said hub into said pocket, and a tool having branches with a space therebetween to receive said hub and pins on said branches to enter said openings, said tool being adapted to be pressed between the back of said holder and the edge of said supporting member to force said pins into said recess to remove a packing therefrom.



1,389,955

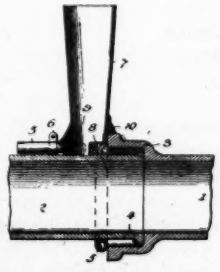


1,389,856

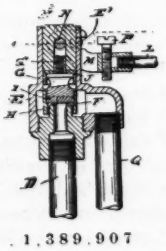
1,389,856. Pipe Bending. Louis H. Brinkman, Glenridge, N. J. In pipe bending apparatus, the combination with means for bending the pipe, of means for supporting the pipe on its interior comprising rotating bodies bearing upon each other and against the pipe walls and a frame supporting said bodies in proper relative positions longitudinally of the pipe, but having clearances permitting said bodies to adjust themselves transversely of the pipe whereby the pressure is taken up between the bodies without imposing undue strain on said frame.

**Plumbing Department.**

1,390,133. Gate for Pouring Pipe Joints. Robert B. Howell, Omaha, Neb., and Charles A. Howell, Ann Arbor, Mich. As a new article of manufacture, a gate for use in producing



1,390,133.



1,389,907

poured pipe joints, formed of paper and having its lower end cut away or removed at one side.

1,389,907. Water Inlet Valve for Tanks. William Sherwood, Detroit, Mich. In a device of the character described, a water

**Gerstein**
**Cistern and Riveted Pressure Boilers**
can be described in one word—
**Everlasting**

They not only *last* but give continuous, satisfactory service.
Made in any size, pressure or capacity desired.

Write for details

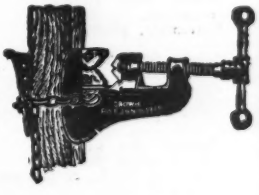
**Gerstein Bros. & Cooper**
**Coppersmiths**
**1-3 W. Third Street So. Boston, Mass.**

THE INCOMPARABLE
NIEDECKEN
MIXER
SHOWERS
PATENTED
HOFFMANN & BILLINGS MFG. CO.
MANUFACTURERS SINCE 1855
MILWAUKEE, U. S. A.
WRITE FOR BULLETIN D-10X

CROWN
**Post Pipe Vise**
**Holds Tight and Firm Anywhere**

**Can be attached to any wood or iron, round or square post, pole or tree.**

**Jaws of best tool steel, hardened and drawn. Will not crush or allow pipe to slip. Made in two sizes.**
**Write for particulars and catalog.**



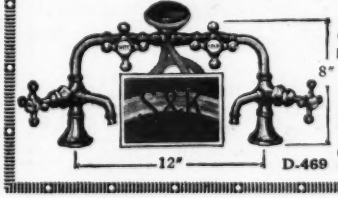
***Ask your jobber for "Crown" Post Vises, Pipe Dies, Pipe Cutters, Etc.***

**CROWN DIE & TOOL CO., 555 W. Monroe St., Chicago**

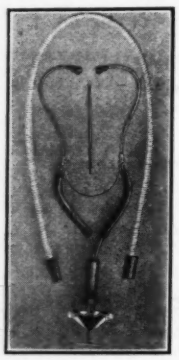
**Something New**

You have seen our S. & K. "Rainbow" Fixtures that have been so widely advertised in this paper. Of course you have. Well, here is a new one for wall lavatories to fit under low shelf, or medicine cabinet. Designed especially for private residences and apartment buildings. Price $18 each.

***For sale by all jobbers.***




Manufactured by
**Street & Kent Mfg. Co.**
549 Fulton St.
Chicago, Illinois



**Transmit-O-Phone**

**An indispensable instrument for the plumbing and heating trade.**

Guaranteed to locate and detect leaks and stoppages in plumbing and heating systems, also knocks or defects in machinery.

*Test it and be convinced*

**O'Donnell Specialty Company**

**93 Lexington Avenue New York**

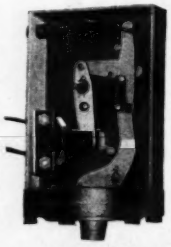
**Type "R" Penn Pressure Switch**

Will Last as Long as the Pump

That is the reason why many of the high grade water systems are equipped with Penn Switches.

All wearing parts made of non-rusting metal. Bearings of brass and pivot pins of monel metal.

You cannot secure a better, more reliable switch at any price. It will pay you to see that the automatic pumps you handle and install have Penn Switches.



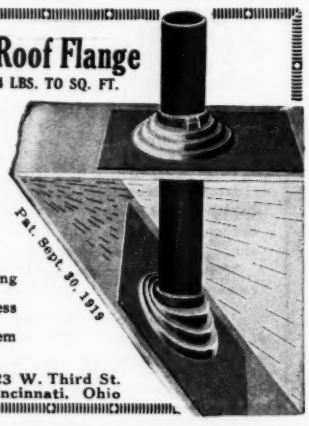
Manufactured by

**Penn Electric Machine Co.,** 114 Eighth Street Des Moines, Iowa

**Retlaw Telescopic Roof Flange**

A ONE-PIECE LEAD FLANGE, 4 LBS. TO SQ. FT.

Drawn into circular corrugations.
Extremely pliable—no seam.
Allows for settling of roof or pipe.
Adjustable to any angle.
Allows for contraction and expansion.
Collapse one side—draw out other.
Draw up band, compressing lead around pipe.
On like a flash—costs less than hand made.
Ask your jobber about them or write us for particulars.




**The Harker Mfg. Co.** 123 W. Third St. Cincinnati, Ohio

**PARAGON SELF-CLOSING WORK**

Plumbers who hold their reputation their greatest business asset insist on Paragon Self-Closing Work because they know that it will stand up under hard use—even abuse.

The same Good Quality is inbuilt in both Paragon Basin Cocks and Bibbs.

Figure B-300

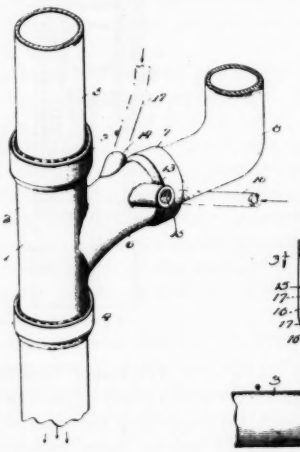
*Sold by all leading jobbers.*

**The Vulcan Brass Mfg. Co.**

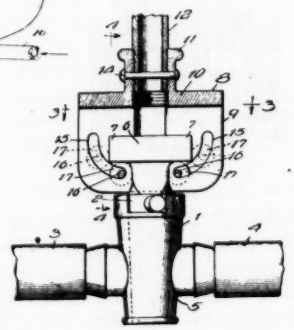
**Cleveland, Ohio**


inlet pipe for a flushing tank, a valve chamber fitted to the end of said pipe having a discharge pipe leading from said valve chamber into the flushing tank, a divided plunger valve fitted to the valve chamber, adapted to seat against the flow of water into the latter, a cup washer located between the divided portions of the plunger, a valve disk, a collar screwed to the lower end of said plunger adapted to support the valve disk and to loosely encricle the valve seat, a float lever, a hook shaped bifurcated fitting secured to the end of the float lever fulcrumed on trunnions integral with the valve chamber, a transverse pin connecting the bifurcated fitting with the plunger valve, an adjustable screw supported in the end of said bifurcated fitting to limit the tilting action of the float lever, and an after-fill pipe leading from the valve chamber and adapted to discharge into an overflow pipe.

1,389,608. Pipe Fitting. Charles J. Trueman, Baltimore, Md. A pipe fitting comprising a T having a relatively long laterally extending arm, the outer portion of which is straight and terminates in a laterally opening bell to receive one end of a lead pipe bend, the arm being provided at a point inwardly of the said bell end and below the plane of the upper side of the arm with means for the connection of a branch pipe with the arm to lead at an angle therefrom.



1,389,608.



1,389,736.

1,389,736. Wrench for Stop and Waste Cocks. Edward C. Buehler, Chicago, Ill. A socket wrench adapted to be placed upon a valve having a T-head, the socket being provided with slots at each end, movable members in the slots adapted to be spread apart by the T-head as the wrench is applied and adapted to drop inwardly beneath the ends of the T-head to prevent the free removal of the wrench.

---

**Work, the Solution.**

I am the foundation of all business.
I am the source of all prosperity.
I am the parent of genius.
I am the salt that gives life its savor.
I have laid the foundation of every fortune.
I can do more to advance youth than his own parents, be they ever so wealthy.
I must be loved before I can bestow my great blessings, and achieve my greatest ends.
Loved, I make life sweet, purposeful and fruitful.
I am represented in the humblest savings, in the highest stack of bonds.
All progress springs from me.
Who am I?
I am WORK.—LaPorte Marvel.

**Statement of Ownership and Management of "Domestic Engineering" for October 1, 1921.**

The following is a statement of ownership, management, etc., as required by Act of Congress of August 24, 1912, of "Domestic Engineering," published weekly at Chicago, Illinois, for October 1, 1921.

State of Illinois, County of Cook, ss.: Before me, a Notary Public in and for the state and county aforesaid, personally appeared F. P. Keeney, who, having been duly sworn according to law, deposes and says that he is the editor of "Domestic Engineering," and that the following is, to the best of his knowledge and belief, a true statement of the ownership and management of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations, to wit:

1. That the names and addresses of the publisher, editor and business manager are:

Publisher, Domestic Engineering Co., 407 South Dearborn Street, Chicago, Illinois.

Editor, F. P. Keeney, Seventieth Street and the Lake, Chicago.

Managing Editor, none.

Business Manager, F. P. Keeney, Seventieth Street and the Lake, Chicago.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.)

F. P. Keeney, Seventieth Street and the Lake, Chicago.

E. D. Winslow, 200 Fifth Avenue, New York City.

O. T. Carson, 6406 Eggleston Avenue, Chicago.

3. That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages or other securities are:

None.

4. That the two paragraphs next above, giving the names of the owners, stockholders and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

F. P. Keeney,
Editor and Business Manager.

Sworn to and subscribed before me this 26th day of September, 1921.

(SEAL) D. J. Hansen.
[My commission expires December, 1923.] Notary Public.

**Net operating earnings** during August of the 203 Class I railroads are estimated at $90,000,000 on the basis of reports received by the Interstate Commerce Commission from 178 lines, showing a total of $85,653,000. This figure, if achieved, will constitute the best record made by the carriers since their return to private control and will mean a yield of slightly more than 5 per cent on the tentative valuations assigned by the commission. The July earnings, according to the revised figures, amounted to $69,298,521. The previous high mark was 4.6 per cent in October, 1920.


**Barrett Sewer Tide and Back Water Trap**

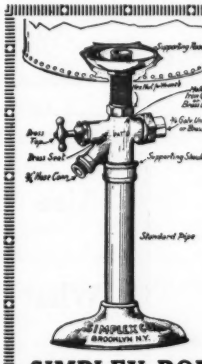
**Designed Right, Made Right, Works Right**

There is no possibility of sewer gas or back water passing through the Barrett Trap.

It operates on a sure, safe principle and is guaranteed to work as represented.

*Let us explain to you why the Barrett trap is the best on the market*

**James Barrett Mfg. Co.**
115 to 121 Pearl St., Boston, Mass.



***Simplex Boiler Stand***

**Made in Malleable Iron or Brass**

Stronger, gives larger circulating opening than cast iron stands.

Will carry twenty sizes of boilers. Supporting arms easily attached to all sizes.

Adjustable to any height.

The SIMPLEX costs less in labor, saves leaks—no place for dust or vermin to collect.

*Write for Circulars*

**SIMPLEX BOILER STAND CO.** 240 Hall Street Brooklyn, N. Y.

**NO ROOF IS SUPERIOR TO ITS FLANGE**

Therefore, some PLUMBER is the father of every leaky roof.

***The Bullard Roof Flange***

is acknowledged as the only PERFECT FLANGE by busy men who have made satisfying installations.

**THE BULLARD SPECIALTY COMPANY, Tiffin, O.**

**Chas. F. Hause Mfg. Co., Inc.**
**Omaha, Neb.**

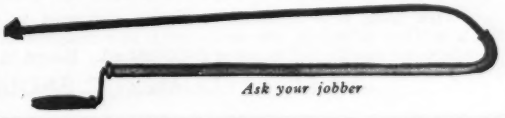
*Makers of the famous*

**"HAUSE" PIPE JOINT CEMENT**

In liquid and powder form. Sets like gum. Allows no leaks. And the

**"HAUSE" CLOSET AUGER**

**Made of seamless brass tubes.** **Indispensable to plumbers.**



*Ask your jobber*

# Classified Advertisements

**8 cents for each word including heading and address. Count seven words for keyed address. Minimum $2.00. One inch $4.00. Cash must accompany order. Copy should reach us Tuesday morning.**

## Situations Open

WANTED—THREE SALESMEN IN South and Southwest with ability and experience to sell miscellaneous supplies in plumbing and steam line. Outline your proposition. Address 396, "Domestic Engineering," Old Colony Bldg., Chicago. 10-8/12-12

WANTED—SALESMAN CALLING ON plumbers to sell brass goods, rubber specialties and tools. Commission basis. Address 397, "Domestic Engineering," Old Colony Bldg., Chicago. 10-8

WANTED—EXPERIENCED PLUMBING supply salesman to travel Virginia. Address 387, "Domestic Engineering," Old Colony Bldg., Chicago. 10-1-15

WANTED—FIRST CLASS PLUMBING supply office man capable of taking charge of Plumbing Supply Department. None but experienced man need apply. Address 388, "Domestic Engineering," Old Colony Bldg., Chicago. 10-1-15

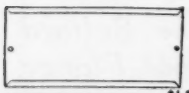
WANTED—PLUMBING SALESMAN TO carry plumbing specialty as a side line, on commission basis. Address 400, "Domestic Engineering," Old Colony Bldg., Chicago. 10-8

## Situations Wanted

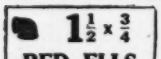
SITUATION WANTED—YOUNG MAN 28 years of age wishes position as salesman. Has had 10 years of practical and business knowledge of plumbing. Address 395, "Domestic Engineering," Old Colony Bldg., Chicago. 10-8-15

## Miscellaneous

SELL YOUR SURPLUS COUPLINGS and fittings. Write us. The A. & J. Mfg. Co., 557 W. Lake St., Chicago. tf



**BIN LABEL CARDS**
2x4¼ in.
For water, gas and steam. Over 10,000 different kinds.
$1.25 per 100—$10.00 per 1000
No. 1 Card Holders 2x4½ in. $2.00 per 100—$17.50 per 1000
Celluloid Covers, 2x4¼ in. $1.50 per 100—$12.50 per 1000
Send for samples.




Send for free booklet, "How to Systematize the Stock Room and Build Bin Racks".
Haddon Bin Label Co., Haddon Heights, N. J.

**Are there 5 and 10 cent pieces lying around your shop in the form of PIPE COUPLINGS? If so, pick them up and advise us amount of your accumulation.**

**JOHN W. MOON**

**1420 Chestnut St. Philadelphia, Pa.**

## Use This Page To Get What You Want

**If you are looking for competent employes; or if you contemplate a change in position, have a patent for sale; wish to purchase or sell a plumbing and heating business; second-hand machinery or tools; form a co-partnership, etc., your advertisement on this page will put you in touch with the people you desire to reach.**

**The cost of insertion is only** eight cents a word and may mean many dollars to you.

WILL BUY IN OR CONTROL—STEAM, plumbing contracting business within 200 miles of Chicago. Experienced steam engineer and capable business manager. Address 398, "Domestic Engineering," Old Colony Bldg., Chicago. 10-8

A MANUFACTURER AND DISTRIBUtor serving the hardware trade wants a line of brass and plumbing goods to sell this trade. Address 399, "Domestic Engineering," Old Colony Bldg., Chicago. 10-8

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